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35 cents

# Precision SHOOTING



A 6 m/m X 270 rifle with a yama wood stock. The use of the yama wood reduced the weight of the rifle one half pound. The total weight of the rifle with a 6X Bear Cub Scope is eight pounds. Rifle built by F. L. Magoon, Kerrville, Texas.

## THIS MONTH

### A BARREL LAPPING METHOD

By John B. Sweany

### LOADS FOR THE .17 JAVELINA

By Edward M. Yard

### ARTIFICE IN IRON SIGHT AIMING

By Jesse M. Grigg

### HEMSTED PISTOL BULLET DIES

By Mason Williams

*a magazine for Shooters by Shooters*



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## READING RECOMMENDED

For any who have not already read it, we recommend the reading of the article titled "Can We Stop The Anti-Gun Cranks?", beginning on page 25 of the January 1960 FIELD & STREAM magazine.

The author of the article, New Jersey State Senator Robert C. Crane, is a gun enthusiast and shooter sportsman as well as a legislator, and is familiar from personal experience with both sides of the anti-gun battle.

The article emphasizes the importance of letting your representatives in the legislative halls know how you feel about pending legislation and points out means of doing this most effectively.

## NOT ALWAYS TRUE

Some target riflemen who have had most of their shooting experience on target ranges but who have not had very extensive shooting experience under hunting conditions, tend to think that only target riflemen are capable of excellent performance in rifle shooting. That is not necessarily true.

The tall tales of super-accuracy from some one box of factory ammo per year shooters may be, in most cases, pretty heavily discounted. There are, however, many very fine riflemen, who do a very considerable shooting throughout the year, both in the hunting field and in experimental and test shooting at targets, who have no interest in formal target shooting programs and especially "tournament" shooting. While those riflemen probably would not be winners as beginners in formal target shooting, they would still give a creditable performance, and in their own field of shooting at more or less indistinct targets at estimated ranges, from shooting positions that could readily be assumed in the field, they would probably make monkeys of many known-range target riflemen.

Our local club outdoor range is used for checking rifle sighting by quite a large number of riflemen who are not target shooters, or even members of the club, and I've observed many of them shooting.

It is true that a very small minority of those who so use our range are really capable riflemen. Using our shooting bench, and using very unorthodox resting methods, some of them do better shooting than I would hope to do when using the same resting system that some of them use. And I suspect they would make a better percentage of hits in the hunting field than I would, too. Those "riflemen" are quickly spotted by the way they handle their weapons and by

observing them as they shoot.

Just before the Fall hunting season opens we have a growing number of hunters coming to our range who are wise enough to check their rifle sighting before they go into the hunting field. A good number of those people are hunters rather than riflemen, and demonstrate the lack of both basic rifle training and shooting practice. But many of those people get their deer, chiefly because our woods hunting ranges are short and the target relatively large.

While the foregoing has referred to riflemen, I suspect, am in fact quite sure, it might equally apply to handgunners. The point we wish to emphasize is; don't jump to the conclusion that a person is not a capable shooter just because he may not engage in formal target shooting. Hold your judgment until you may observe what he can do with his own guns under the shooting conditions he is familiar with.

PHT

## STILL SETTING RECORDS

We read in the Winchester-Western "Target Tabloid" for December that Major John Hession set a new club record at the October 26th shoot in Clearwater, Florida, firing a possible 400-38x score at 100 yards with smallbore rifle.

Major Hession has set a good number of shooting records in past years, and we are happy to hear that he is still at it.

There are several retired ex-northern shooters, fellows who have been around in the shooting game for quite a spell, who are active shooting members of that Clearwater, Florida, rifle club.

## STILL QUITE A WAYS TO GO

The comparison of the three top scores fired in the 1959 Pan-American Matches and the European Championship Matches, printed in the January 1960 AMERICAN RIFELMAN, is interesting but not very encouraging.

Aside from Puckel's record breaking scores in the 300 meter matches, our U. S. shooters made a rather sorry showing when compared to the scores fired by European shooters, even in what has been fondly considered as the U. S. specialty rifle shooting position—PRONE.

When the scores fired by our top ranking U. S. shooters are compared with those of the **TOP TWENTY** European shooters in both the 50 meter three position match and the 50 meter, 60 shot prone match, we get an even gloomier looking picture. The twentieth place European shooter in the 50 meter three position match fired a score of 1128, as compared to Puckel's 1107. In the 60 shot 50 meter prone match the twentieth ranking European shooter scored 587, as compared with Cook's 582. To further indicate the **depth** of the ability in the small bore free rifle shooting ability, the top twenty shooters in the three position match represented eleven nations, and in the prone match, twelve nations.

It is, of course, possible that the shooting conditions for the European Championships were better than for the 50 meter shooting at the Pan-American Championships, but nevertheless it would seem clearly indicated that there is a greater depth of top performing riflemen, in the International style shooting, in the European nations than there is in the Americas.

Some persons may try to ease the impact of these comparisons by contending that at least the riflemen from the

Soviet countries are "subsidized shooters," but civilian riflemen from the free nations of Europe were well represented in the Top Twenty ranking of both matches. And for that matter, are not all of our top ranking riflemen in the 1959 Pan-American Matches "subsidized shooters"?

This writer has not the least criticism of the effort of the armed services to improve the proficiency level for U. S. competitive target shooting; rather, he commends that effort and considers the financial aspect as public money well spent for a worthwhile purpose. The marksmanship programs of the armed services have proven that continued regular training, conditioning and practice will produce outstanding marksmen. The inter-service rivalry in target shooting competitions provide the incentive for continued improvement. The rising standards of scoring ability being set by military rifle and pistol competitors should provide improvement incentive for civilian shooters, and unless the great mass of our civilian shooters have become a mess of weak-kneed, easy-give-up so-and-sos, it will.

It is this writer's **opinion** that one of the main reasons that the U. S. is a second-rate (or worse) nation in the world field of competitive target shooting is that civilian shooters, as a group, have underestimated the range and haven't elevated our sights high enough. We should right away set ourselves more difficult goals, and then try to reach them. That is the only method by which we can make progress.

Any program for improvement needs a starting point, and it needs **leadership**. The International Shooting Union program of competitive target shooting is still comparatively new in the U. S., but both the familiarity with it and the interest in it is growing steadily, but progress is yet slow. The ISU programs do provide the more difficult goals which this writer believes necessary for any general improvement in target shooting standards of proficiency. To make a general start toward reaching those goals, this writer will suggest two practical "starting points."

First, and we believe an important "first," adopt more difficult targets for all our competitive target shooting. The X-rings and V-rings in our U. S. targets do indicate that we **need** more difficult targets but have only made a half-hearted effort to meet that need. The ISU dimension targets do provide the "difficult" goal requirement and, since they are standard for most of the rest of the world, they further provide a direct comparison of shooting ability throughout the world. The ISU dimension targets would be quite practical for use in our presently popular civilian rifle and pistol shooting programs, as well as being standard for the ISU programs. It might be that some adaptation of ISU target dimensions might be desirable for our present competitive pistol courses, but it shouldn't be difficult to make some satisfactory adaptation. The ISU 50 and 100 meter targets would certainly provide an interesting challenge to our smallbore prone shooters. As population increases in many sections of the U. S. the longer ranges for our semi-military high-power rifle program will become impractical, if not impossible. The ISU shooting program for center-fire rifles will be more practical, and interesting, for the ranges that will become, or are, necessary within reasonable distances in thickly populated areas (and it is the thickly populated areas).  
(Continued on Page Eighteen)

## LETTERS

### A BALvar 6-24 SCOPE MOUNT

Dear Phil:

Bob Stinehour's "Beginners Corner" in Nov. '59 "PS" was really a knockout. I hope that some of the B&L salesmen take a good long look at what is said in this column in re the BALvar rear mount. I have been using one of the scopes for about two years and concluded soon after the trial period that the rear mount would make a good sinker in someone's fishing kit.

Last year at Camp Perry I walked into the Hogue Gun Shop (North East, Pa.) exhibit and saw what I thought was a mount for a 2" Unertl, but it turned out to be a hand-made mount for a 6-24 BALvar. I couldn't get my billfold out fast enough, and I still contend that is the best \$20.00 I ever invested. With the able assistance of a club member, the thimbles were engraved and the dove-tail revamped to correct a mis-calculation in dimensions, so now I have what I consider the finest telescope on the market today.

The net result of the change is as follows:

- It is no longer necessary to haul up on the clamp screw every few shots.
- It is possible to log scope readings that can be reproduced at any time.
- It is possible to put the scope on the rifle, get on the target at 1000 yards and stay there. The course adjustment screws on the original mount were calibrated for resetting for different rifles and it was found that these screws were not in the same position after firing as they originally were.

d) It is now possible to make single adjustments to move from 200 to 1000 yards.

I don't know who the Phil Brown mentioned in the article is but I am glad that the bench resters can get over a point that the every day target shooter has been saying for some time.

As ever,

George Bjornstad  
Chicago, Ill.

### DOESN'T LIKE X AND V RINGS

Dear Phil:

Just got a pleasant shock, reading Dermot C. Reilly's comment on Sam Tekulsky's record run of 1000-yard bulls. The shock came at the very end of Reilly's letter, where he says, "Incidentally it was scores with long runs of bulls which evoked V-rings (a mistake in my opinion; the numerical count should have been made more difficult and then we wouldn't have the anomalies where a good shooter out-Vs or out-X's the field by a 30% margin, and finishes way down the ranking list)." I thought I was the only shooter who felt that way on the subject.

My objection took shape the day I shot a 20-shot match at 100 yards, got 19 Xs and one 9, the latter probably due to some accident of bullet malformation or damage which I did not realize, as the holds were all alike, and I was surprised to see the 9. This match was indoors, no wind nor change in conditions. If the X-ring had been counted as 10, the 10-ring as 9, etc, I should have taken that match with a 198.

I have given up arguing on the matter, as nobody agrees with me. The principal reason against change seems to be that you have to give a reasonably good shooter a chance to make a 200 or 400, or he will become discouraged and stay home. My answer is that pistol

shooters never make 300 over the National Match course, and they are apparently not discouraged. Maybe pistol shooters are naturally more optimistic than rifle shooters. Anyway they keep right on plugging away at the hopeless job, with no more chance of making a perfect score than a snowflake in Florida. Since then pistol targets have also come out with X-rings, and I think it is just as much of a mistake as in the rifle targets. Seems like the only good reason for the X-ring is that someone had a whole lot of targets already printed, and in order to save them when change became necessary, printed them with a white circle inside the bull. This set the precedent, so now we're stuck with it.

William E. Peterson  
New Canaan, Conn.

(Editor's comment: I wonder if a factor contributing to the United States team defeat by the British team in the 1959 Lord Dewar International Match may have been the more difficult new British smallbore targets, which were used in this match for the first time. The British team members had at least several months match experience on these targets, of ISU dimensions, while our U. S. shooters have continued to do their match shooting on the old decimal target with its more generous scoring areas. It seems generally true that when one is confronted with a more difficult challenge, one will try harder to meet that challenge. That is what leads to progress, in shooting or any other endeavor.

I admire the leadership displayed by the Small Bore Rifle Association of Great Britain in making the change to their more difficult targets in the face of considerable opposition to the change. It is this writer's opinion that our own National Rifle Association would do well, even at this late date, to display similar courageous leadership, and be backed up by enough riflemen to make it stick.)

### WANTS DOWN TO EARTH DOPE

Dear Phil:

Another year—lots of ammo and targets down the drain—word, words, and more words—so, adding mine to the Babel—enjoyed your efforts for 1959. Best wishes for 1960.

Find most material interesting and instructive—but many technical items a little beyond me—like Mr. Grigg's learned and rather obtuse theories—the almost arithmetically correct, forgets that we are only human. I would like to see a little more on small bore shooting techniques, both for prone and free rifle, but practical stuff that is within the range of myself (just a dope with a master's degree in engineering—but human).

Mike Morse  
Kendall, Florida

(Editor's comment: So would I, Mike—not only smallbore, but dealing with high-power (both target and sporting) and Free Rifle, and target handgun as well. To make the practical dope more easily understandable, illustrating by sketch or photo is very helpful. How about giving Mike and me a little help, folks.)

### FINDS HELPFUL MATERIAL

Dear Sir:

After reading Nov. '59 Precision Shooting I feel a note is due you for the fine material in this book.

I am particularly impressed with the articles by Mr. Grigg and Mr. Donaldson. I have 2 rifles of .219 Don. calibre

## SOME NEWS FROM FRANCE IN THE GUN FIELD

Jacques F. d'Ametza

The actual trend of the French manufacturers of automatic pistols is an increasing production of their cal. 22 pistols.

Since the W. W. II, only four factories are manufacturing commercial automatic pistols, i. e.: "MANUFRANCE", "M.A.B.", "MANURHIN", and "UNIQUE".

They manufacture their pistols in .22 short and long rifle, 6mm35 (.25), and 7mm65 (.32). There are no more "big bores" in commercial use, such as 9mm (.38) or .45; it is no more allowed by the French Government since the W. W. II.

There is a trend to manufacture double action automatic pistols, as "MANURHIN" does with his PP and PPK models, licensed from WALTHER in Germany. Now "M.A.B." is preparing an improved double action pistol.

The same "M.A.B." factory, which is represented in the United States by Winfield in Los Angeles, is also planning a double action revolver in .22 L. R.

The manufacturer of the new .22 L. R. "ULTRONIC" is implanting this new ammo in France. His plastic box acting as both a container and a dispenser is fully accepted throughout the country.

"MANUFRANCE" is manufacturing now a new repeater in cal 12, a conventional pump action which holds 4 cartridges (3 in the magazine and one more in the chamber). It is the first low priced weapon of this kind manufactured in France. Its list price is announced 445 New France, i. e. approximately 89 U. S. dollars.

The "M.A.S./45" Ordnance Air Pistol manufactured in .177 cal. for the training of the French Army, and now freely traded in the country, is a best buy. It is accurate, powerful and inexpensive.

and 3 of 7 m/m. Trigger construction has never quite satisfied me. Hence my interest.

Congratulations to you for a fine job.

R. W. Hildebrand  
Wilkes-Barre, Pa.

(Editor's note: The congratulations should rightly go to the folks that supply the interesting and helpful material that is passed along in P. S. Without that cooperation and exchange of information, Precision Shooting wouldn't be worth the paper it is printed on.)

### THE TOURNAMENT CIRCUIT 100 YARD INDOOR TOURNAMENT

Forty-nine competed in the Individual and Two Man Team matches conducted by the Metropolitan Rifle League and fired November 22nd on the II Corps Armory 100 yard indoor range in Brooklyn, New York.

Barbara Norton, Bridgeport, Conn. won the individual 40 shot match with a 400-36 score. F. Cole, shooting in expert class, had second ranking score of 400-35 and Rans Triggs was third with 400-34. Others with 400 scores were: Lloyd Norton 400-33, J. Lantelme 400-33, Irwin Tekulsky 400-30, Fred Triggs 400-30, Harry Stone 400-28, Sam Burkhalter 400-27, Carl Johnson 400-26, and expert R. Arrington 400-32.

Rans Triggs and C. Kline won the two man team match with a score of 800-67 and the expert class team of A. and D. Rosenblatt were runners-up with 800-59, while the second place expert team of R. Dornau and F. Cole were third overall with 800-59. Scoring 799's

(Continued on Page Five)

## A BARREL LAPPING METHOD

By John B. Sweany  
187-A Silverado Trail  
Calistoga, California

Lapping a barrel is like whetting a knife; it makes it sharper and, like whetting, it takes time and careful work. It takes time to do a good lapping job and time these days means MONEY; more money than many of us might want to pay a poor, hard working gunsmith. It does not seem possible that a good lapping job can be done in less than about 6 hours, and that's at least \$25 to add to the cost of a barrel. Today's machinery does a very fine job of rifling a barrel but close inspection will lots of times show up defects that can affect accuracy and these defects can many times be lapped out.

The method of lapping has a great deal to do with the kind of results. The following method has been devised by the writer and counsel with many men has not disclosed its previous use, though it may have been.

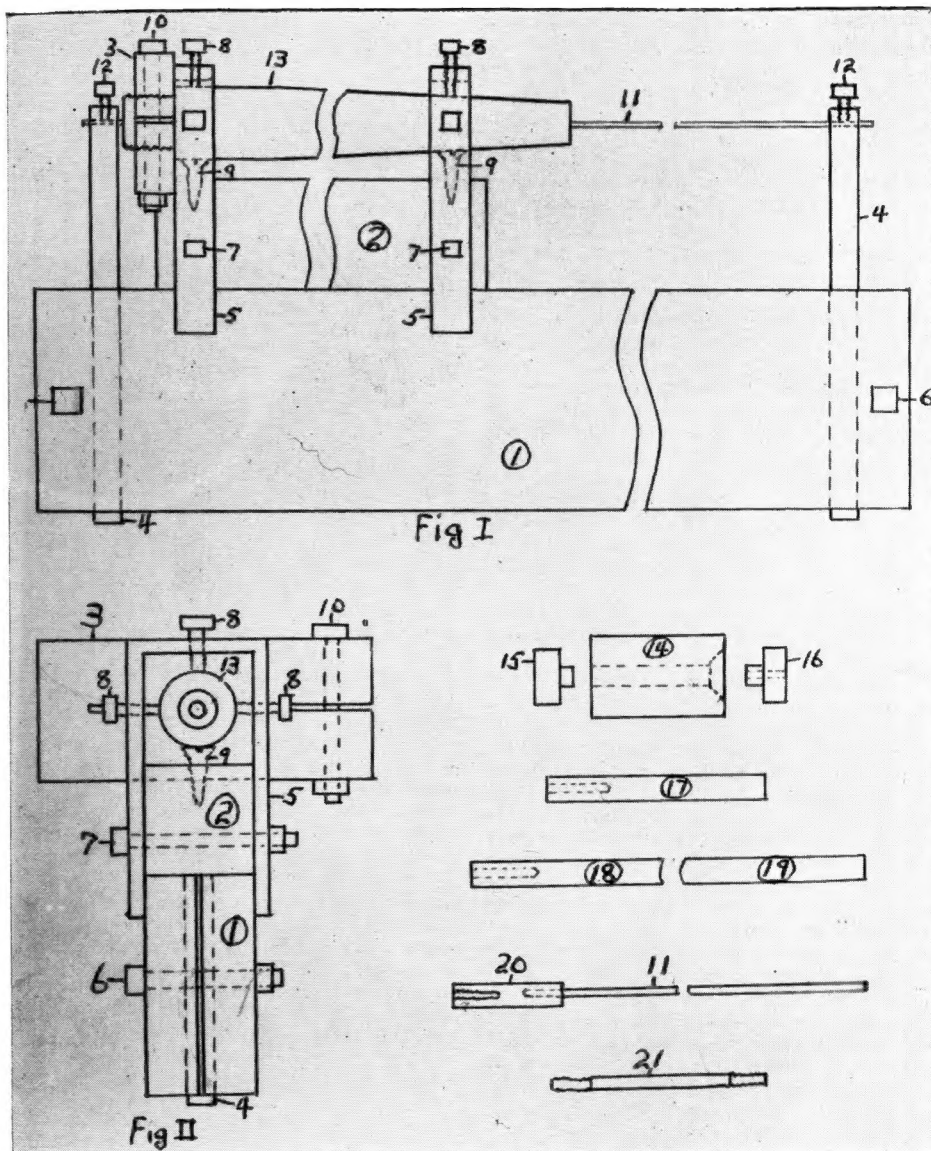
It has been common practice to cast a lap in the barrel by melting the lead, heating the barrel and pouring the lead into the barrel. Any who have done this knows what a job it is and what a lap it is, with its pits and hollows and never a fit like just what is wanted. This method does not depend on casting or heating. The lead is formed in a die and gently swaged up to form right in the barrel. Small bore like .22 are much harder to cast than the big bores that the old timers used, but this method is easy.

The lapping compound is diamond dust in paste; not emory. Diamond cuts much faster than emory and does not wear out like emory; in fact it can be said to not wear at all in barrel lapping. When emory wears a little it gets dull and drags, and wears a lap smaller so that a new one has to be cast. This we will side-step with diamond dust and the swaged lap. One lap will complete the work with one grit. The wear on the lap is VERY slight; it is hard to see any difference by miking it.

For most barrel lapping, three grits are all that will be necessary. It comes in the form of a paste put up in a neat little jar and is made by the AMPLEX CORPORATION, WEST HARTFORD 7, CONN. No doubt other companies make it, too, but this is the one that will be referred to. They are very prompt and willing to give information on what they have and what it will do, as a postal card will disclose. The price for doing your barrel work will run from \$10 to \$20, depending on how much is ordered. You can hardly SEE the amount that doubles the price, but don't let that scare you because \$20 worth will lap more barrels than you will ever live long enough to do.

It is sold by the gram and the price varies with the micron range and by the weight of the diamond in the paste—the amount of paste looks the same but the weight of the diamond it contains differs. Be assured that the price is VERY cheap for the amount of work it will do because it takes so VERY LITTLE. A very light smear on the finger is enough to charge the lap (no more than the same amount of mustard you'd rub in your eye on a dare). A very good choice of grits to get is #15 for the first roughing cut, #3 for the middle cut and #1 for polishing. Also a small bottle of the thinner that they make.

Finding out just what your barrel is on the inside takes a bit of practice. It is done by slugging the bore with a lead



Parts List

- Pcs 1. 1—2X4X5½ ft. Pine or hard wood, surfaced. ½" holes in 1" from each end for pc 4. Slit each end and drill for ¼" bolt.
- Pcs 2. 1—2X2X18", same. To slide back and forth on pc 1.
- Pcs 3. 1—¾"X2½"X6", pine or hard wood. Hole in center to slip over bbl thread. Drill for ¼" clamp bolt and slit about 4".
- Pcs 4. 2—steel rods ½"X8". #45 drill ¼" from end. Tap in end for 8X40.
- Pcs 5. 2—steel flats ¼"X¾"X11". Drill for ¼" set screws, bend as shown.
- Pcs 6. 2—¼"X2" bolts to clamp pc 4 in pc 1.
- Pcs 7. 2—¼"X2½" bolts to clamp pc 5 to pc 2.
- Pcs 8. 6—¼"X¾" set screws for pc 5. To center bbl on wires.
- Pcs 9. 2—#10 wood screws for pc 2, same purpose as pc 8.
- Pcs 10. 1—¼"X3" bolt for pc 3, clamp, to hold bbl tight.
- Pcs 11. 2—46 drill rods, 3 ft. or .080 steel spring wire.
- Pcs 12. 2—8X40 set screws to secure .080 wire in pc 4, about 5/16" long.
- Pcs 13. Shows rifle bbl in place.
- Pcs 14. 1—die to make lead lap. Steel ¾"X1¼" with .213" hole through center. Center drill one end as shown.
- Pcs 15. 1—plug ½" dia. with boss .213" about ⅛" long to fit in pc 14.
- Pcs 16. 1—plug same as pc 15 but with #32 hole drilled through center.
- Pcs 17. 1—#3 drill rod .213", 2" long #32 drill in ¾" one end, cut this piece from end of pc 18.
- Pcs 18. 1—#3 drill rod .213", 3 ft long. After cutting off pc 17, drill same as pc 17, #32 drill in ¾" on one end.
- Pcs 19. 1—#3 drill rod, 3 ft long.
- Pcs 20. 2—steel 1" long. Turn to about .200 dia. Drill one end in ⅜" and tap for 4X40. Drill other end with #32 drill in about ⅜" and solder in pc 11.
- Pcs 21. 1—#34 drill rod .111" dia. 2" long. Thread ⅜" of each end for 4X40. This piece holds the lead lap.
- Pieces 5 will need thin shims between them and the bolts so that pc 2 can slide easily with no play on piece 1.
- The hole in pc 3 should just fit tight over the threaded end of the bbl so that the clamp bolt, pc 10, can clamp tight on the bbl. Pc 3 is also a handle with which to pull and push the slide, pc 2, back and forth on pc 1.
- The hole in pc 14 can be just under bore size and should be as smooth as possible so the lead can be pushed out easily.
- Pieces 1 and 2 will not be full size when surfaced, use as it comes from the lumber yard.
- The ends of piece 5 should come down over pc 1 at least ¾".
- Keep all parts centered as close as possible.



slug. While it does not seem possible that a piece of lead slugged tight in the bore can do it any kind of damage, it is said that it can if it is pounded up tight. Properly done it can do no damage at all; you just don't go at it like a bull to a gate. Hold the barrel in a vise and run a rag through it with a little light oil on the patch or rag. Take a piece of 3/16" lead wire about 34" long or less and put it somewhere near the middle in the barrel. Take the rods, pieces (pcs) 18 and 19, using the solid end of pc 19, and with both hands hit the lead at the same time just lightly. (Refer to the illustration of numbered parts and the parts list.) After a few hits, move the lead along to a different place and keep on hitting and moving until it moves a little hard. Then run the lead from end to end of the barrel a few times to sort of get the lead used to the bore, being very careful to not let the slug get out of the barrel. Keep on till it pushes through about as hard as you would push a lawn mower over short blue grass—not very hard. If the lead is very tight, it will give false answers. It must be just tight enough to resist and drag the whole length of the barrel; then the tight and loose spots (if you have any and you probably will) can be felt and judged, and noted where they are. Save that slug because you can use it again after lapping if you are clever enough to get it back in again and you should be—just take it easy, move it from land to land till it goes in—it does not matter if it is the same land as before so long as it goes in. Once in it takes lots less to slug it tight again. Now that you know where the tight and loose spots are, or do you, you can get down to an honest day's work and start lapping.

Take a look at the drawings. FIG I is a side view and FIG II is an end view. The other parts are what it takes to make the lap. Pc 1 is the bed and is best held in a vise but any other method of holding will do, your choice. The drawing shows how it is made and how it holds the wires and how pc 2 holds the barrel so as to slide it back and forth on the bed. With this method, nothing can touch the inside of the barrel except the lap itself; the wire cannot—very unlike the lead cast on a rod that can drag on the lands like a ram rod.

The list of parts shows pc 2 has 2 steel straps (pcs 5) with 1/4" set screws and 2 wood screws. These screws are to center and hold the barrel and align it parallel with the travel of the cartridge, which is pc 2 and its assembly of parts. Set the barrel in the carriage about where it should be and note where the center of the breech is. Set the height of the .080" holes in both pcs 4 as close as possible to this height. The wire, pc 11, goes through the two .080" holes and is clamped tight by the set screws (pcs 12). With the wire tight but without the lead on it yet (you can assemble the wires together using pc 21 between screwed into pcs 20 which have been soldered on the wires), move the carriage from one end to the other and see if the position of the barrel needs to be changed to keep the wire in the center of the bore. The wire should be drawn just tight enough to not sag and touch the barrel in operation. Watch this setting to see that it does not change while working.

Scratch your head or whatever you do when you are ready for the first time to start lapping. Take pc 14 and put pc 15 in the end that it is shown next to. Pc 15 should be an easy fit, a thousandth or two under the hole in pc 14. Using 3/16" lead wire, cut a piece long enough

to stick out about 1/4". Use the solid end of pc 17 to swage the lead into pc 14. Do it in a vise or under a press and be sure that it is up tight. Pc 14 with the lead in it should be taken to a lathe and chucked up so that a pretty true hole can be drilled through the lead. With a #32 drill, drill through from the end not countersunk. Take it out of the lathe and place pc 16 where pc 15 was. Get pc 21 and file several notches in it to keep the lead from turning on it. Then put pc 21 through the hole in the lead so the lead is about in the middle of it. Take this assembly to the vise and put pc 17 with the hole in it over the other end of pc 21 and squeeze her up till a little lead oozes out somewhere. Take pc 16 out and push the lead out of pc 14 by pushing pc 17 on through—as it now is it should go in the bore of the gun with a little to spare, one, two or three thousandths under bore.

With the barrel centered in the carriage, put pc 18 in the bore with the hole toward the muzzle end. Put the lap in and push the rod up against it till the threads are about even with the muzzle. Put pc 17 with the hole over these threads. Use a soft hammer, holding the long rod and swage the lead up in the barrel. It will expand out and fill in the bore and grooves. Do this the same as you made the barrel slug—easy and a little at a time. Push the lap through the barrel nearly to the ends (don't let it come out) till it is not quite as tight as you had the slug. Do this a little at a time, 3 or 4 times, swaging up each time. Carefully push it out of the barrel till about half of the lead can be seen. It should fill the grooves and taper back toward the center where it is not so full—this leaves space to carry paste. If it looks OK to start with, push it out 3/4 of the way and with a knife cut a small notch in the lead right on top and put a tiny punch mark in the barrel right above it—then you can put the lap back in the same grooves.

Take the long rod out of the barrel and put in the wire with pc 20 soldered on it and screw it up on the lap. Then unscrew it about 2 1/2 or 3 turns—this is so that the LAP can turn on the barrel as you are lapping—the barrel does not turn, the lap turns in the threads attached to the wires. Screw the other wire on the other end in the same way and put the wires through the .080" holes in pcs 4. Pull the wire tight—tight enough not to sag in working. Note exactly where the breech wire is in pc 4, how much of the wire sticks on out—you will want this setting as TAU to always come back to. With the wires properly tightened, pull the lap out till about 1/4 of it comes out the muzzle. A clamp should be set at this point on the bed and at the breech end of the carriage so that the carriage cannot come any further back which would let the lap come out of the barrel. The same can be done the breech end by setting the clamp at the muzzle end. You can see how far a case base goes in the breech—lay it in the same position on the outside of the barrel. This will show where the throat is and that length can be measured to the muzzle. This same length can be marked off on the wire at the muzzle end and the carriage moved out till the muzzle of the barrel comes to this mark and a clamp can be set there. This limits the travel of the lap so that it cannot come out of either end of the barrel.

The setup is now ready to put on the paste. Unscrew the wire from the

breech end and pull the lap out with the wire at the muzzle end. Smear a little #15 paste over the lead which should be about 1 or 1 1/2 inches long. Just enough to see that the surface has a slight smear, it takes SO VERY LITTLE. By being very careful the lap can be wiggle around very gently till it will start and go back in the bore and pushed on in with the fingers. With the lap in the barrel, put the wires back on again, being sure that they are unscrewed 2 1/2 or 3 turns and that the breech wire is on the TAU you noted in the pc 4. You are now ready to start lapping after you have set the wire tight.

Pull the lap from end to end. See that your clamps are set right so that it cannot come out of the barrel. If you should have the bad luck to have it come out, just give it a good cussing, pull it clear on out and start over again. Pull the lap from end to end 10 or 15 times till you find the tight spots. Put a drop of thinner on the lap and remember to never let it go dry—keep it wet. Work on one of the tight spots a lot, going past it both ways; further one time and not so far next time so as not to do all the lapping in one place—spread it out and get it even. Put maybe 100 strokes on one place and then go to another and work it awhile. The idea is to even up those tight spots till there are none. Keep the lap wet and keep working till you feel it is not cutting much and then pull the lap clear out and wash it off clean. Put on some fresh paste, just a little, and put the lap back in the barrel. At this time, if the lap feels a little too loose, take the wires off and put the long rod in and swage the lap up a very little with pc 17—one lap can thus be tightened up any number of times. When the barrel gets to feeling pretty even, start taking the strokes the full length of the barrel, maybe one or two hundred.

When you think the barrel is pretty even, take the lap out, clean out the barrel thoroughly and try the slug again—it will tell you how the work is going. If not even enough, go to it again and when it suits clean out and make a new lap to take #3 grit. Do the same with #3 and #1 as you did with #15, but you will not need to spend so much time on the spots. #1 will do nothing much but polish the bore, and what a polish it does. Numbers 3 and 1 can take from 400 to 1000 strokes or more. When you think you are done, clean out the barrel and slug it again, being careful to not slug much in any one place. Mike up the slug and you will very likely find that you have expanded the bore something like .0002 to .0003 inch. That is plenty if it takes out the tight spots. After the job is done, while there is no need for it, you may want to cut a small portion from the muzzle, 1/4 or 1/2 inch. If you do, split it so you can inspect the surface and you will be surprised to see what it has done, and how smooth it is.

## Tournament Circuit

(Continued from Page Three)

were master class teams of Irwin and Sam Tekulsky with 64x, Barbara and Lloyd Norton 60x, J. Glaab and F. Triggs 58x, Carl and Eric Johnson 57x.

Rans Triggs won the individual aggregate with 800-69 and Barbara Norton was a close second with 800-67, and expert F. Cole third with 800-62. Others making 800 scores were Irwin Tekulsky with 61x, Carl Johnson 60x, F. Triggs 58x, and Sam Burkhalter 57x.

## ARTIFICE IN IRON SIGHT AIMING

By Jesse M. Grigg

Instead of treating with the size of the hole in the front sight insert, what follows has to do principally with the size of the rim which surrounds the hole. This subject is chosen because the size of the rim may determine not only the manner in which the eye sees and reacts to the sight picture, but also because the size may regulate the suitability to existing light conditions. In this role the suitably chosen rim is merely an artifice as are most of the aids in metallic sight aiming.

The principle involved in detecting error of aim is the discovery of difference, say of relation, of area, or of separation. Intensity in the appearance of difference depends on the intensity of the stimulus to which the eye is exposed, stimulus here referring to such attributes as brightness, definition, size, color, contrast, and so on.

In metallic sight aiming most of these stimuli, notably those of size and definition, are so weak that the effect needs to be accentuated by artifice. The placement in proximity the objects which are to be compared is one means of doing this, as also is the choice of favorable dimensions and colors. It is now to be shown that suitable choice of rim width is also one of the means of providing additional aid.

For this purpose consider now Fig. 1 which denotes a typical sight picture when aiming is done with a thin, skeleton insert. The scale of the figure corresponds to 6 minutes of angle for the 100 yard smallbore bull, which is shown off center 1 minute of angle; the scale corresponds also to a white band whose mean width is approximately 3.5 minutes when the front sight aperture diameter is .132". The appearance of ring thinness is had when the radial dimension of the ring itself does not exceed more than about .025" if the insert is metallic. If the insert is of clear plastic of stock about .030" or slightly less (as are the Redfield inserts), a suitable appearance of thinness is given if the inner edge is beveled to 45° and the bevel is blacked with India ink. It is particularly pointed out that a few thousandths more than .025" in projection leads to aiming characteristics which differ considerably from those now asserted for what is herein called the thin ring.

As the ring is thin, and also as in aiming it is seen in relief against a background which is white inside and out, excepting only the gray area of the bull, the so-called white band attracts no attention whatever. Only the dark elements of the sight picture do this, and the relation between them is appraised by the difference between separations at the nearest and farthest places. Thus a lack of symmetry is estimated in lineal distance. On the axis of displacement in the figure the ratio of the longer distance to the shorter is  $4.5 : 2.5 = 1.8$ , and in aiming the eye will estimate the discrepancy in the same way that it estimates the displacement of a dot reticule in a scope field.

Now observe Fig. 2, which differs from Fig. 1 only in the radial width of the surrounding ring. Here, owing to much thickness, whatever light area lies outside the ring fails to attract attention. Moreover, to compass the whole of the white inside the ring, viz, the white band, requires less of eye effort than is

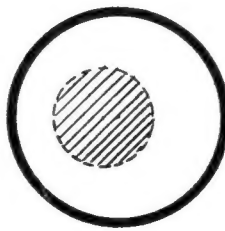


FIG. 1

needed to compass the whole of both dark areas simultaneously; for psychological reasons, therefore, only the white band is noticed, and this is what one aims by. But to appraise it, the eye is compelled to notice all its white at once. Thus one judges by shape, this equivalent to judging by area instead of by lineal dimension, as in the case of the thin skeleton ring.

For the dimensions stated above in minutes, and one minute of aiming error, it may be shown that the ratio of unequal areas is approximately  $(52.2+7)/(52.2-7) = 1.3$ . The corresponding ratio in the case of the skeleton ring was shown above to be 1.8. Thus for sensitivity to error the coarse insert is theoretically only slightly more than two-thirds as effective as the skeleton.

But these are only the theoretical figures of merit. Shooting alternately with each insert under different conditions of light reveals that each has its good points and its bad; and besides, this test brings out some apparent anomalies that are at first difficult to account for.

As to good points and bad, let us begin with a comparison of the attributes of each system as they are manifested in this shooter's experience. On the standard outdoor targets the skeleton ring runs off the paper, and its utility is just about nil if the backstop appears black, as it may do when weatherbeaten timbers compose it and the direction of fire is toward the sun. When the direction of fire is away from the sun, however, and the sun is shining, the thin ring against nearly any backstop appears black enough to be effective; so what follows for the thin ring is based on the premise of direct sunlight on the target.

First of all it is noticed that the bull appears like a dot in a large black circle, although physically the white band area equals the white band area inside a coarse ring of the same internal diameter. Also, and mainly because the ring appears so large, the wobbling of the rifle is registered to such an extent that, in this respect, aiming is similar to scope aiming with a dot reticule, excepting the disadvantage of inability to see as well. This disadvantage, by demanding close attention, makes this a difficult sight to use. On the other side, however, is the fact that a tolerable appraisal of the sight picture is obtained, though both ring and bull are somewhat blurred. But far and away the best feature of all is the absence of sun glare on the target, and additionally the absence of difficulty in seeing when the illumination suddenly changes from dark to light. Undoubtedly, although the thin ring is a slow and difficult sight to shoot with, it is the one to use when all others fail because of glare.

The coarse ring, like the thin, belongs in a special field, which is the field of subnormal light. There are two rea-

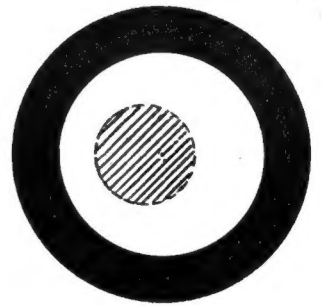


FIG. 2

sons for this. When the target is directly illuminated, either by sun or artificial light, a corona of light seems to surround the white band, and this makes accurate appraisal of the sight picture very difficult. The second reason that this ring is the one for subnormal light is its manifested efficiency on dark days, in morning and evening light, on targets hung against a dark background, and on those which face away from the sun, as is frequently the case in early morning or late evening shooting.

Still another advantage is the fact that the coarse insert shows, not the instantaneous, but the average sight picture. Proof of this is the fact that the error of aim is discovered, not the instant it occurs, but after it has occurred. Owing to the time lag, the wobbling is not observed; the sight picture is the average one, and holding for the average allows most of the attention to be devoted to the business of squeeze, which makes for faster fire.

Excepting the bad susceptibility to glare under strong light, the coarse ring has only the disadvantage that a very sharp and black appearance of the ring is necessary to its success. This is a help which shooters whose eyes need corrective lenses may gain only with a particular correction at expense of a blurred, or at least a gray appearing bull.

It might be interesting now to learn why the various characteristics of these two different types of insert are manifested as they are. In every instance the explanation is found in some particular characteristic of the sight sense. Here we have to do principally with the sensitivity to stimulus and the time of response to it.

Sensitivity to a change of stimulus depends on the level of the stimulus, and the ratio of sensation to stimulus is greatest when the level of change is lowest; thus a match struck in the dark is vastly more conspicuous than is one struck in daylight. Time is involved also because the eye sees best what is at the place where the attention is fixed, and the attention must rove before the eye may compass an object at a slightly different place. This is the reason why the hand is quicker than the eye—the principle on which the art of legerdemain depends, and also is one reason why in scope shooting are dropped points which the shooter is unwilling to own. Moreover, what needs time for its perception momentarily endures on the retina after the stimulus is gone; example, a stick of lighted punk swung in darkness gives the impression of an unbroken arc.

There is involved here still another principle which maybe is the inherited result of race experience, or maybe is due to a cause which is immediately to be mentioned. We see black on white better than we see white on black, possibly

the true reason being that white glares. Viewing a telephone pole we do not form the idea of its shape by the shape of the sky that is not obscured, but form it by the shape of the light column that in fact is absent. Tree leaves limned against the sky are much more conspicuous than are the interstices of sky between them. The outline of a distant automobile at twilight is discerned if the headlights are sheet is more easily read than is white printing on a black sheet.

not burning. Print in black on a white background. With such principles as these all the aforementioned characteristics are explicable. The thin ring attracts the attention for two reasons. It is black on white; moreover, because a small area is contrasted against a large, it stimulates sight sensation at the threshold level of keen sensitivity. The observed separation distance of it from the bull appears abnormal because the ring area is small compared with that of the white band. For the same reasons the wobbling is amplified to proportions in which it may be detected, and this effect is helped along because the rate of stimulus is at the low level of keen response.

With the coarse ring the white band attracts the most attention because in contrast its area is small compared with the much larger total of black; and further, between the two differently shaded areas, the white demands less of eye effort to compass, because it is the smaller. For optical reasons only the white area reflects the sun's rays; and, as this is the area which attracts the eye, it blinds with its glare because here is where the attention is fixed. If the attention were on the ring instead of the white band, glare would not be noticed, as is the fact when the ring is suitably thin.

Now the aiming characteristics of the thin ring are due to fineness; those of the coarse ring are due to coarseness. This suggests the thought of a happy medium which embodies most of the good of each system with a minimum of the bad. In actuality the subject of the thought is fact. Undoubtedly there is such a median thickness; though it is admitted that I have not experimented with enough of rings to be certain of having found the most favorable one. But the ring whose radial dimension is .037" seems close to the median size for my eye, in both gallery and outdoor shooting. I have used it exclusively in gallery for about three years, and because of indoor success, have adapted the same thickness to outdoor shooting.

Outdoors this is the all purpose insert, which has failed against only a black backstop with sun on the wrong side. Otherwise it is equally good on dark days, and days when sun glare would render the coarse metallic almost useless. It is fast, and besides it allows a wide, clear field. It is the one to use on bright days, and days when sun and cloud alternate. If the day is consistently dark, however, the thick metallic will get more tens.

No doubt the reader wonders now where the tinted plastic insert stands in this scheme of things. If the blacked bevel is quite thin the tinted portion has the effect, owing to darkening slightly the outside area, of directing the eye attention to the white band, just as would a deeper bevel in a clear field. Thus the tinted plastic is a hybrid, a sort of all-purpose insert, which perhaps is no more effective than a skeleton metallic of suitable thickness. What color the tint is would not matter at all, if the blacked bevel had more than a certain thickness.

Finally, the colored plastic will not do any of the work of tinted sunglasses in the matter of controlling the glare of a white band. Because the rays pass through it, a sunglass lens is able to regulate this glare by interfering with objectionable rays.

Here the discussion might well end excepting that a little remains to be said about corrective lenses, and about the matter of gaining both brightness and sharpness at the same time. Sharpness, as most shooters know, is gained by diminishing the rear aperture diameter at expense of brightness. Perhaps fewer know that also there exists a definite relation between the diameter of the pupil and the most efficient rear aperture opening. Due to this relation, shading the eye to obstruct rays other than those coming through the opening increases the pupil diameter and thereby permits the efficient use of a larger opening, and thus gains a better sight picture on the dark days when the thick rimmed front sight insert works best.

The reference above to corrective lenses, which likewise has to do with better seeing, is a subject that was previously mentioned in relation to the thick rimmed front sight insert. For illustration of the principle, it is supposed that the corrective lens has been chosen, as it should be, to provide perfect vision in the zone between about 25 and 50 inches from the eye; or if the eye can be fitted for a zone whose outer limit exceeds 50 inches, so much the better.

As the front sight lies in this zone, this choice of lens permits the front sight to be seen, sharp and black regardless of rear aperture diameter, provided only that the ring attracts the eye attention. Further, if the rear aperture opening is small enough, the bull also may be seen in good definition, though perhaps not in good illumination.

Now if the aperture be opened wider the eye will still try to focus for the bull, and will attend the front sight in particular only when the bull appears too vague to attract attention. Thus by regulating the diameter of the rear aperture, the eye may be caused to automatically divide its attention, and see both the front sight and bull in better light and definition than otherwise were possible. In accordance with the other principle enunciated above, a still better picture is gained if needless side rays are obscured by shading.

## HARVEY DONALDSON WRITES

Dear Phil:

Have spent part of this afternoon reading over several late editions of several magazines devoted to shooting matters. At the risk of your calling me a cantankerous old cuss, I'm going to register a complaint against those shooters who continue writing about their obtaining MINUTE OF ANGLE groups with their seven pound rifles, chambered for MAGNUM cases.

Who the devil do they think they are kidding, anyway? Now it just happens that the writer, during a lifetime spent in this shooting business, has learned that to make minute of angle groups, at any range, takes considerable doing. If I were asked to produce such groups, on order, I would select rifles of calibers such as the .22, 6 m/m, .25, and the 7 m/m (with light bullets) and these in Sporter weight rifles, with scope.

In my case designing experimenting, years ago, I went all through this MAGNUM design of cases, and from this I

learned several things. One being that shooting a magnum rifle was a quick way to heat up a barrel. Another thing was that if you had any notion of accuracy you wanted a good sized target. After taking a beating from recoil I had it figured out that shooting a magnum from a bench rest, was for the birds. Shooting a 30/06 bull gun was an entirely different matter, as this rifle had the weight to off-set the load of 36.6 grains of HiVel #2 and the 172 grain bullet; and this outfit really gave accuracy.

Now we read of Weatherby Magnums giving minute of angle accuracy way out to 500 yards, and beyond. Also that the 7 m/m Mashburn Magnums in seven pound weights, including scope, will give minute of angle accuracy, not once, understand, but ALL THE TIME. Where do these writers get that stuff? The best part of the whole business is that I have seen several of these same writers, in ACTION, shooting from the Bench, at Johnstown, and they were having considerable trouble in getting minute of angle accuracy from their bench rest guns. They should have used Magnums.

I saw one fellow trying to get his 7 X 61 Sharp and Hart rifle sighted in at 100 yards, on a 300 meter target. When I asked him how he was doing he replied, "Well, I hope I don't wear out the throat in the barrel before I even get it sighted in." This was last year on the Pine Tree Rifle Club range. I saw him again, at the National Matches last Labor Day, when I again asked him how his 7 X 61 was doing. He told me the recoil bothered him so much he had given up hope of ever being able to hit anything with it.

Sincerely,  
Harve  
(H. A. Donaldson)  
(Fultonville, N. Y.)

## "SHOOTING METALLIC SIGHTS":

There are always exceptions to any generalized statement, and that was taken into consideration in the first sentence of the item on page 2 of December 1959 P. S. Ross Stones, St. Louis, Mo., has reported his own case of an early eye injury which now makes respectable scores with metallic sights impossible. We still think those unfortunate people are a minority.

THESE PAGES are available each month for you folks to trade rifle, handgun and related information and you are invited to use them.

## LOADS FOR THE .17 JAVELINA

By Edward M. Yard  
110 Kensington Ave.  
Trenton, N. J.

Recently I undertook an interesting load development chore for a friend, using my chronograph to measure the velocities attained. The subject of this work was a little .17 Javelina rifle belonging to Mr. V. F. Roma of Langhorne, Pa. This capillary bore size gun has proven itself on varmints in his hands. It behaves politely, as regards noise, recoil, etc., and is flat shooting. We had chronographed loads for it before. These agreed with the information already available for the gun, and accounted for its performance on game, and for its trajectory. However, we still wondered what its capabilities really were, and so

(Continued on Page Eight)





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Frames only, \$18.50. With non-prescription lens, \$22.50.

#### ANNOUNCEMENT

Beginning January 1st, 1960, I will begin wholesaling to a selected dealer list a number of arms and accessories--Walther, Anschütz, Gehmann, Junker, Unertl, etc. Responsible established shops serving the competitive shooting public are invited to write for lists. No part-time letterhead gunsmith inquiries, please.

**ROY F. DUNLAP,**

**2319 Ft. Lowell Road, Tucson, Arizona**

#### Loads For The .17 Javelina

(Continued on Page Seven)

we set out to discover them. We did, too.

This sub BB size bore turned out to be a miniature Swift. It is astounding how enthusiastically it revved up those tiny pills to the 4000 F.p.s. level. With four different powders it drove the 25 grain Holmes bullet above 3800 F.p.s. With 4895 powder it is a 4000 F.p.s. gun, and the only difficulty is getting such a coarse grained propellant through the narrow neck of that tiny case!

The load development procedure was a simple one. We just set up the chronograph in its accustomed place in the shootinghouse on my test range, installed loading tools, powder scales, and started working up to safe maximum loads with one explosive after another. Thereafter the gun spoke for itself, and the chronograph told the tale. This system gets results fast. It is unnecessary to load and shoot many rounds of combinations that do not produce the desired results. One may move on to loads that do deliver the goods and concentrate on giving them a thorough test.

We started out with the ball powders, expecting that these might make a showing. They are ideal for loading these little cases with their slim necks. They gave a good account of themselves, but the IMR series of powders did a bit better. 21.5 grains of 4895 sent the 25 grain missile writhing through the screens at a red hot 4030 F.p.s.

Now this isn't lazying in the sun. It's moving! There just aren't a lot of guns around to crowd that kind of velocity. Velocity means punch, and this under half-pint size cartridge has it. That top load giving 900 ft. lbs. of energy, has more shocking power than the .357 Magnum or the .218 Bee.

With light jacketed bullets there are no ricochets, and a dust cloud is thrown up for most shots over dry ground. This is a good choice for those areas where the big boom won't go, but where you must still reach out and deliver that blow-up

kill power at long range. In fact, it may, with these loads, do anything the big noise guns can do at any range on varmint sized targets.

These loads will really deliver the goods. These velocities are not guessed at. Each load was carefully chronographed and checked for uniformity. The results are as reliable as this superb little gun.

To look at the outside of that little case, one can detect scant outward sign of the inward power to propel those bullets at such speed. It has however, just what it takes: the ability to hold and to handle

a charge of powder equal to a little better than 80% of the bullet weight. Turn the trick it does, and with great uniformity, too. The chronograph monotonously blinks the same time reading shot after shot, showing less than 40 F.p.s. variation for most of the loads.

The case is made by shortening and necking down the Remington .222 to .17 caliber. The shoulder angle is increased a bit to about 33½ degrees. This gives it just a bit over 20 grains capacity for most powders, and it will handle about a full case of most of them. Thence cometh its sting.

The rifle used consists of an Atkinson & Marquart barrel, fitted and chambered by them on a Sako action. The barrel is 23½ inches long and is held to the same outside dimensions as the Sako heavy barrel. Thus the gun is shot from the standard Sako stock. Roma reports that it is accurate.

Well, the meat of this story is those chronograph results, so let's dish them up. All measurements were made with a counter chronograph using a 100 Kc. time standard calibrated against WWV to an accuracy of .002%, and values shown are to a fraction of a percent of true. Differences between rifles, lots of components, and other conditions will introduce greater variation than any found in these tests. Distance of the midpoint of the screens from the muzzle is only six feet, so the instrumental velocity is used uncorrected, although it is of course very slightly below the actual muzzle value. No difficulty was encountered in testing these loads, but great care was taken to insure that this tiny bullet hit the screens. The temperature during these tests ran from 81 to 88 degrees F.

Please remember that rifles and components vary, and these loads may not shoot in your gun. If you intend to try them, work up your own loads from several grains below the values shown here in order to avoid the possibility of excessive pressures. Use this data for guidance only.

#### CHRONOGRAPH TESTS OF .17 JAVELINA

Remington cases were used to form the brass.

Winchester No. 116 Primers (except two loads noted with Federal).

All charges weighed as fired.

Powder		Velocity	
Wt. Gr.	Type	Bullet	F.p.s.
18.0	Ball C	25 Gr. Holmes	3400 Federal 200 Primer
20.0	Ball C	25 Gr. Holmes	3660 Federal 200 Primer
21.0	H375	30 Gr. Holmes	3485
22.0	H375	30 Gr. Holmes	3730 Excessive Pressure
22.5	H375	25 Gr. Holmes	3820
22.1	H380	25 Gr. Holmes	3720
20.5	H380	30 Gr. Holmes	3470
21.0	H380	30 Gr. Holmes	3520
20.2	Ball C	25 Gr. Holmes	3820
20.2	Ball C	30 Gr. Holmes	3680 Excessive Pressure
22.4	H450	30 Gr. Holmes	3150
23.2	H450	30 Gr. Holmes	3285 Full Case
21.3	4320	25 Gr. Holmes	3720
20.3	4676	25 Gr. Holmes	3650
19.0	3031	25 Gr. Holmes	3730
20.0	3031	25 Gr. Holmes	3890
21.2	4895	25 Gr. Holmes	3970
21.5	4895	25 Gr. Holmes	4030



**HEMSTED PISTOL BULLET DIES**  
by Mason Williams

I have been very fortunate in being able to work with handgun bullet swaging dies made by Frank Hemsted, Box 171, Culver City, California. They are in caliber .357 and .429. Like all good things, these dies are simple, so simple that they are extremely easy to set up and work with. Mine were used in the Hollywood Senior press. One stroke down and one up and out comes the completed bullet. There is no unnecessary movement or handling of either dies or bullets.

These Hemsted dies consist of a die body that is fitted to the shell holder frame and securely fastened. Within this die is a floating ejector ram. Into the top frame of the press is screwed the nose die, which contains two machined-in nose dies. It takes but a moment to reverse the nose dies and set them up for bullet swaging.

In actual operation this is what happens. To swage a bullet, the tool handle is raised about half way. The floating ejector ram is now about one quarter of an inch below the top of the die body. Place a bullet jacket into the top of the die body, insert a lead core into the bullet jacket. Complete the down stroke of the tool handle. This forces the die body up all the way and conversely, seats the nose die all the way into the die body, thus forming the bullet. Raise the tool handle. This lowers the die body, withdrawing the nose die from the die body. Just as the nose die clears the die body, the base of the floating ejector ram touches the top of the ram stop. As the tool handle is raised further, the floating ejector ram comes up within the die body, forcing out the completed bullet. As the bullet emerges from the die body, reach over and remove it. The dies are now clear and ready to receive another jacket and lead core.

This is a far cry from some of the complex mechanisms that I have seen. Adjustments of the dies give tremendous range for varying bullet weight. Once the die body is seated, the only adjustable part is the nose die. This consists of a threaded center body with a finely machined extension on each end. At the end of each extension is the nose die—hollow point, wad cutter, long nose, shortly blunt nose or whatever you happen to specify when ordering your nose dies. You get two nose dies with each set of dies at no extra cost. Also, you can specify your combination of nose dies, and get them. More and more handgun shooters are using one nose die for target work and another for hunting. Frank Hemsted will give you your choice without extra charge.

Bullet weight is changed by screwing the nose die up or down in the tool frame. In my own testing, I ran bullets in cal. .429 from 150 grains up to 255 grains. From a practical point of view, nothing can be gained by going under 150 grains or over 250 grains, but this will give you an idea of the tremendous range of bullet weights and design made possible by swaging bullets in the Hemsted dies.

A locking ring securely fastens the nose die in place. Once this is done, one bullet or ten thousand may be run off with the assurance that variation will be less than one tenth of a grain. There will be some variation due to jacket weight. Also, jackets must be cut to the same length and correctly trimmed, but any good jacket bought from a reputable manufacturer will be correctly finished.

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With good jackets and lead cores properly cut with a good wire cutter, bullet weight variation will be a negligible factor. In my opinion, bullet weight variation is not nearly so important as correct swaging up under correct pressure to completely fill out the bullet and fill the entire jacket cavity with lead. The Hemsted dies do this extremely well.

One very outstanding advantage of the Hemsted dies is the shearing off of the extruded lead when ejecting the bullet from the die body. Many dies require that lead extrusion be picked off with the finger nail or wiped with a cloth. The Hemsted dies, due to their excellent design, eliminate this entirely. Further, there is no finning of lead around the shoulder or base of bullet with these dies.

Because of their one stroke design and the lack of lead extrusion, production with these dies is very fast. Three men can turn out ammunition as fast as a man can swage bullets. With one man swaging bullets, another throwing powder charges and the third seating the bullets, cartridges can be turned out about as fast as desirable and consistent with good loading principles.

**ACCURACY, LOADS, ETC.** I like the Hemsted nose design very much on all nose dies sent to me. As an experiment, I tried the wad cutter bullet in 153 grains in caliber .429. These short wad cutter bullets gave good accuracy at twenty five yards, but would not group well at fifty yards. The powder charge was five grains of Bullseye. Recoil, in my Smith & Wesson model 1950 cal. 44 Special was very light, smooth and pushy. There was no snap to the recoil nor throwing off the target. This little bullet would appear to be well worth considering for timed and rapid fire at twenty-five yards.

Of all the bullets tested, I found the 232 grain long nose bullet to be the most versatile and consistently accurate in both .44 Special and .44 Magnum. This particular bullet was made with a Speer jacket and pure lead core. The jacket was crimped into the lead core after

swaging in order to insure that the jacket remained securely fastened to the lead core both in flight and after impact. This is imperative if one requires top accuracy in high velocity bullets. The crimping groove also provided a place to crimp the mouth of the case, since recoil will pull the bullet when firing high velocity loads. In all my handgun loading I use the four piece RCBS dies that permit seating in one operation and crimping in another operation. As a result, it is possible to correctly crimp the case mouth into the crimping groove in the bullet jacket. To date, I have not had a single case of bullet pulling during firing.

Using this Hemsted 232 grain jacketed bullet, I loaded it ahead of 4.5 grains of Bullseye in the cal. 44 Special. This turned out to be an excellent and very accurate load. I am very partial to the nose design of this bullet. It is a clean, sharp, beautifully balanced bullet.

For really high velocity shooting in cal. 44 Special, I used this Hemsted 232 grain bullet ahead of 18.5 grains of #2400. That is a stiff load, but one that burns clean. Since this was about maximum loading, I did no shooting under one hundred yards with it. At one

(Continued on Page Fourteen)

**SHOOT!**

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Ted Holmes  
R. R. #1  
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### SOUTHWEST REGION:

(Director vacancy)

Secretary-Treasurer  
P. H. Teachout  
64 Depot Street  
Lyndonville, Vt.

### NBRSA MEMBERSHIP DUES:

Individual annual dues \$5.00 (includes magazine subscription for membership term). Associate member (wife or husband, son or daughter under 18 years of age, of member in good standing—no magazine) \$2.50. Life membership, \$75.00. Annual club affiliation fee \$10.00.

### MISSISSIPPI VALLEY REGION MEETING

A meeting of members of the new Mississippi Valley Region, NBRSA, was held at Mattoon, Illinois at which Ted Holmes, Mattoon, was elected Director for the Region and Alfred W. Walter, St. Louis, Deputy Director.

The 1960 Mississippi Valley Regional Championship was awarded to the Windsor Rod and Gun Club, Windsor, Ill., to be held on September 25th.

Two clubs submitted match schedules for approval. Windsor Rod and Gun Club proposed dates are for unrestricted bench rest rifles on April 17 (day), and night shoots on July 23 and August 6, plus the Regional Championship in September.

Dates proposed by the Nine-Ring Sportsman's Club, Florissant, Missouri, were June 12, July 17, August 21, September 18 for unrestricted bench rest rifles and August 28 for Varmint and Sporter rifles, all daytime shoots. (The August shoot dates will be subject to confirmation by NBRSA.)

At least three other clubs in the Region plan to conduct shoots during the 1960 season and their schedule of shoot dates will be submitted for approval at a later date.

## NATIONAL BENCH REST CHAMPIONSHIPS

**VARMINT AND SPORTER CHAMPIONSHIPS** at San Angelo, Texas, August 18-19-20, 1960. Contact Mr. F. L. Magoon, Box 909, Kerrville, Texas.

**UNRESTRICTED BENCH REST RIFLE CHAMPIONSHIPS** at Tulsa, Oklahoma, August 23-24-25, 1960. Contact Mr. E. A. Anderson, 3604 South Toledo, Tulsa, Oklahoma.

### ANNOUNCEMENT TO NBRSA EASTERN REGION MEMBERS

The annual Winter Meeting of Eastern Region NBRSA will be held at Mark Twain Hotel in Elmira, New York on Saturday and Sunday, February 13 and 14, 1960.

All NBRSA members resident in the Eastern Region who may be able to attend this meeting are urged to do so and participate in planning the activities for the 1960 season. All clubs that plan to sponsor matches in the Region are especially urged to have a representative at this meeting, since the match schedule for the season will be arranged at the meeting, in so far as possible.

Members who will attend the meeting should make their own hotel reservations at the Mark Twain Hotel, Elmira, New York.

### A CORRECTION

In National Championships Shooting Summary in the November issue it was reported that the winner of the four day grand aggregate was Robert F. Stinehour with a .45114 minute of angle aggregate, and that Ed McNally was second with a .45435 aggregate average.

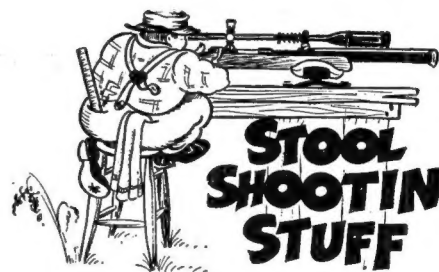
That four day grand aggregate for all matches fired with unrestricted bench rest rifles, including both five and ten shot matches, was not computed and reported in the official results bulletin supplied by the Pine Tree Rifle Club. The undersigned computed the averages for those shooters who fired all the matches and who appeared to be the high ranking contenders. He did not compute all the averages for all who shot all the matches.

In December, John S. Hutchinson, Belle Vernon, Pa., wrote that his aggregate average for all the matches for the four days was smaller than Stinehour's and that evidently an error had been made. I then checked Mr. Hutchinson's aggregate and found that he is quite right. John S. Hutchinson is the winner of that four day grand aggregate with a .4441 minute of angle aggregate average.

Robert Stinehour has been advised of this error, has rechecked the computations himself and agrees that Hutchinson is without doubt the winner. Bob admits that he isn't very happy over being beaten by such a small margin in an important aggregate for the second time in the 1959 season. He was beaten by a similar small margin in the Eastern Region Championships by Omar Rinehart.

The writer does not now know whether he goofed in first computing Mr. Hutchinson's aggregate from the official bulletin, or if he made the even worse goof of not computing the aggregate at all, but he certainly DID goof and meekly apologizes.

P. H. Teachout



### STOOL SHOOTIN STUFF

Dear Phil:

The other day I had intended to start this letter, telling you about how green the grass was, with danderlions here and there, and no frost in the ground. Now I'll have to start it by saying that although there is no frost in the ground, there are 3 or 4 inches of clinging snow covering the ground and the trees that make the landscape and open lake as pretty as any of the Christmas cards that I have received. The story about the snow will probably make some of the boys in the South or on the West Coast shudder, but Merrie and I thoroughly enjoy it. Of course, we don't have to live through a long winter of it like some of our shooters do because the warm salt air makes it disappear as quickly from Cape Cod as it comes, and for the last three years, a broom has been about all that has been necessary to clear the walks.

I sort of got an early introduction to the snow this year because when I arrived at Doc Garcelon's camp at Long Lake, just a few miles south of Rangeley, Maine, there was just about as much snow on the ground and Bob Stinehour and Tiny Helwig from Winchester were stomping around in Doc's camp, trying to get a fire started to offset the 15 degree temperature, and then it was only the middle of October. We sure were glad to have the sleeping bags that night, and Bob curled up in his on a canvas cot three feet from the fireplace, with the comment that he would keep the fire going. Well, he is a pretty good fellow at keeping promises but when I woke up the next morning I didn't see any bright embers in the fireplace. From then until now, I have been in various concentrations of snow, in Maine and the mountains of New Hampshire, so I guess I can scuff through a little of it for a few days, although I do admit it is much more alluring when you are following a big buck track.

I found when I got home to the Cape that perhaps I should have stayed put and hunted with some of the boys around here, on deer week which usually starts with the first Monday in December in Massachusetts. It seems that about 30 of the boys in nearby Osterville got 22 deer, and that's a pretty high percentage. It surely is high compared with the percentage attained by the Benchrest Shooters who gathered at Stratton, Maine; however, we don't always go hunting for the size of the kill. The anticipation that precedes it, the good fellowship throughout the period and the memoirs of the incidents and associations are far more lasting than the meat in the freezer.

I mentioned Christmas cards earlier which have poured in from friends all over the country by the hundreds, and among them there was one very little



card on which there was a verse that I think describes the creed of the benchrest shooter. There are times in the heat of argument over contrasting views that we appear to digress from such basic feelings but I believe it is never for long and we soon return to our normal friendly selves.

"There is a destiny that makes us brothers:

None goes his way alone.

All that we send in to the lives of others

Comes back in to our own."

I came home to a pile of work to do against promises that are long over-due, and enough correspondence to keep Merrie at this poor old typing machine for a month, but those letters I have received are some of the things that make life worth while, and occasionally even Jock competes with me in fan mail. At his ripe old age, he is fast reaching the equivalent in human years of 80, no longer does he climb the steps or jump into the car with alacrity. He's been to a lot of benchrest matches and never has worried whether they used steel or sandbags for rests, but like some of us who have attended many of them, his heart still beats faster at the sight of a gun. Whenever I go to the range, he takes up a position slightly in front and to the right of the bench, with his muzzle resting on his fore paws and his tail constantly twitching. His eyes are glued upon me as I adjust the rests or the scope, or get out the ammunition, or wipe a dry patch through the barrel. Perhaps for 10 minutes, he never moves from that position but he seems to know exactly when I am getting down to serious business and am going to pull the trigger. The eyes don't change in their concentration but the movement of the tail almost stops as though not to distract me as I tighten up on the trigger. At the first crack of the gun, he leaps to his feet, does a tight 360 degree circle over the spot on which he was laying, and races along the shore of the lake, along Holly Lane to the beach knoll which forms the backstop for the bullets. There he barks and runs as though to encourage me to keep on shooting. Perhaps we are both a little stupid because even if it lasts all day, we are as likely as not to want more the next day.

One of Jock's letters came all the way from Jack Rice on the West Coast, and Jack is just as nice a guy as Jock is a dog. Jack, too, doesn't get around quite as well as he used to in his youth but, like Jock, he has a big heart for shooting and his shooting friends. He asked Jock to try to talk his master into loading up the station wagon and heading for the West Coast. That sure would be a nice thing to do, and I can't think of anything more pleasant than shooting with Jack Rice, Don Smith, Charlie Poole, Bill Curtis and lots of other good friends who are too far away to shoot with as frequently as I would enjoy. I can only say that if Jack keeps twisting my arm, and the others do frequently from time to time, I'll probably make such a trip.

I enjoyed the pictures and the article in the American Rifleman about the manufacture of cases and bullets at Frankford Arsenal, and as I read it I thought of how much progress the benchrest boys had made through the years, because we have carried on from where the government or the big arms companies left off. We are inclined to

(Continued on Page Twelve)

## BEGINNERS CORNER

Robert F. Stinehour  
OBJECTIVES AND PURPOSES

"Beginners Corner" was dreamed up by myself for several reasons. First, to make material for our editor who was, and is, continually short of good material. By good material I mean informative material on gimmicks, products, ways of doing things to get best results, etc. A straight and informative column, with no axe to grind, and with material that is not so technical as to be over the heads of some readers.

Secondly, to help the shooters with less experience, and thereby make competition keener.

Thirdly, to try to sift out some of the misinformation, which, thank the Lord, there is not so much of in the rest shooting game as there is in some other types of shooting.

It is hard for one person to come up with enough material for even a short monthly column. From the "thank you's" I've had for tips that have helped some shooters, I feel "Beginners Corner" is on the right track. I would like with our editor's permission to invite anyone to contribute a complete article or a helpful hint, be it only a paragraph. They would receive full credit for anything offered. A contributor need not be an old pro or need not have a completely original idea, just so it is something that may in some way help some one.

Since reading Mr. Hogue's letter (Nov. issue), I feel "Beginners Corner" could be expanded to take in all types of shooting, and if all shooters would submit material, "Beginners Corner" could incorporate the Team Testing idea, or vice versa.

The Team Testing idea is an excellent one, and everyone interested in shooting should be on the team. There are many ardent experimenters who are not stingy in giving information (verbally), but when it comes to taking the time to sit down and put it on paper for all to benefit from, they seem to say "Let George do it."

As Mike Walker says; "There are few things we can say for sure, in the shooting game," and I agree heartily. With more cooperation there would be more and more things we could say for sure, and thus help shooting tremendously.

Many may be slow to submit material for fear of controversy. This should not be, for controversy in a way is very good. It brings out more ideas and theories and thus gets to the bottom of things better.

Please submit material to:

Robert F. Stinehour  
M. D. 26, Route 9W  
Newburgh, New York

or to:

PRECISION SHOOTING  
64 Depot Street  
Lyndonville, Vermont

\*\*\*\*\*

### A SCOPE MOUNT KINK

After the description of the mounts made by Homer Culver for the BALvar 624, John B. Sweany, 187-A Silverado Trail, Calistoga, California, designer of the "Reticle Rule" which is the official group measuring device in bench rest shooting, the Bore Sight Collimator, and many other optical devices to aid shooters, submits the following:

"I too have a BALvar 6-24 that I didn't feel was doing its stuff properly. I found that I could roll it in the mount. With the Sweany Collimator stuck in the

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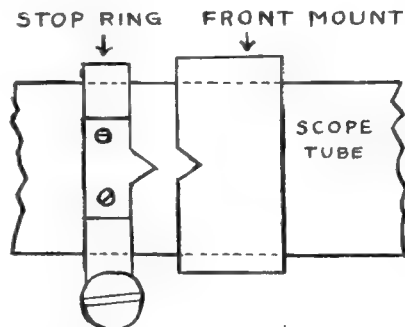
## STINEHOUR RIFLES

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barrel, this roll amounted to about one minute of angle. Drawing the scope to place by hand also showed noticeable error. I eliminated the roll by cutting a V in the front mount and adding a male part attached to the adjustable ring stop that comes on the scope.

### BAL-VAR 6x24 (TOP VIEW)



"The V is cut in about .10" deep with a 90 degree cutter and the male part is made just more than 90 degrees so that it engages the outer part of the slot and fits without any slop. The return spring is set strong enough to insure that the scope comes back firmly into the V, and there you have it—no more roll.

"I suspected the same thing might happen with my Unertl 20X, though it did not roll nearly as much. On the front side of the front Unertl mount I drilled a hole .070" as far back as I could, and inserted an .073" spring steel wire, drove it in tight and filed it down until it could not touch the scope, and then filed the V in the bottom of the stop ring. The V comes back against the wire and returns exactly to the same place without question."

Mr. Sweany's remedies for both these mounts are excellent and I intend to give both of mine the same treatment. With this treatment and the return spring real tight, one should have the next best thing to a solid mount.

R. F. S.

**CREIGHTON AUDETTE** and the Editor have started some informal experimenting with behavior of Featherweight hi-power sporting rifles. A lot more shooting to be done, come warm weather again, but we'll make some report on the experiments when they are completed. Audette is using a Win. M/70 and the editor a Savage 110 MCL, both in .308 caliber.

## Stool Shootin Stuff

(Continued from Page Eleven)

think that we are doing a very big thing in sorting our jackets to very close tolerances or making our cases more uniform but I marvel at the steps that are taken by the manufacturers to give us jackets as uniform as they are coming through now and cases that now are so uniform in weight that it is rarely necessary to reject one from a new box of twenty. The manufacturers go through a lot of grief to try to give us a good product and I sometimes think that we don't give them credit enough for the steps which they take in our behalf. I think we should be deeply appreciative of the work that has gone in to the two new Speer manuals with their wealth of information and data on loads for the present day powders and rifles. I like to use my new chronograph and experiment with loads but it is just a waste of time for me to go to that trouble if Vernon and Ray Speer have already done it for me. Probably they did it more scientifically than I can do it, and it is so easy to just open up the book and get all the data that one needs, along with a lot of interesting reading besides.

The above reminds me of a point which I think should be brought out to the fellow who makes his own bullets. I frequently get letters from chaps asking just what the best bullet weight is for a certain caliber. I have preferences for certain jacket lengths and bullet diameters, and for certain loads for special purposes, but I am frank to say that I cannot take any fixed weight and consistently make one lot of bullets after another of that same weight, mostly because there is a tiny variation between one lot of jackets and another. The core must be seated in the jacket so that it packs firmly, but does not bleed by as the punch forces the lead tight into the jacket and expands it the proper amount for the diameter bullet being made. I have thirteen different punches for 22 caliber hulls, and even then I am sometimes not entirely satisfied with what I have. In this case, it may be necessary to slightly increase or decrease the weight of the core so that the proper seal is obtained as the core is seated. When things are working right, and everything is properly adjusted, the core seating operation becomes fast and very uniform. When things aren't adjusted right, the jackets stick to the punch because lead forces by the punch and/or because the punch bites into the jacket, or possibly too much lubricant is being used on the jacket. I don't know anything that slows up bullet making operation more, or snafus what otherwise might be a good batch of bullets.

Another thing that builds up my blood pressure when I am making bullets is to have a bunch of wrapped points as they come out of the swage. These points remind one of the old fashioned ice cream cone, or of a model that Howard Johnson currently uses in some of their stands. There is some chance that this wrapping condition may not be the fault of the bullet maker, and be the result of jackets that are a little too hard and thus fracture as they are forced in to the cone of the die and not form as they normally should. There are other conditions, however, that can cause this result, and one of these conditions can be one that is not the fault of the bullet maker, also. This condition usually occurs on maximum length jackets of any caliber and is because the cup has been drawn out in manufacture to almost its

extreme limits. At that stage, the lip is perhaps unevenly work hardened but also may be thinner at spots or, worse yet, a slight scallop or fracture at the cut off point. You can sometimes see these conditions and predict that a bullet will wrap. I found that wrapped bullets may also be caused by improper punch size when seating the cores or the improper use of the right size punch. Either one can result in a portion of the inner wall of the jacket being shaved off as the core is seated. This thins off one side of the jacket wall from the mouth to the lead line and probably will cause an unbalanced bullet even if it does not cause a wrap. It is always best to try to cap the jacket with the inserted core over the punch rather than hope that the punch will be lined up well enough to exactly center as it is forced up into a jacket which is already in the die. It is also important to avoid rough handling that results in out of round jackets.

I have often said that a blind person could with care and his developed sense of touch and hearing make better bullets than are made by some. A wrapped bullet can frequently be heard and felt, but I must say that I like to look the bullets over pretty carefully as I put them on the scale for weighing, because a wrapped bullet could be a very erratic projectile, although on some occasions I have shot a batch of them that made pretty good groups. It is that one odd one that behaves like a maverick that ruins us in the competition.

Phil, I hope this letter gets to you a few days before you have a Merry Christmas and a Happy New Year, and to the boys who read it, after they have had pleasant holidays and are well started on a New Year of good health, much happiness and prosperity, and a year of small groups.

Cordially yours,

Ernest Stuhlschuter

## THE INFORMATION BENCH

The Information Bench service is available to all Precision SHOOTING readers. With your questions, send a large, stamped, self addressed return envelope for a reply. Selected questions and answers, covering as wide a variety of interests as possible, will be published in these columns. Address your questions to the following people.

Bench rest, varmint and hunting rifles, accessories, handloading, components and shooting methods—M. H. Walker, THE INFORMATION BENCH, RFD #1, Box 118, Mohawk, N. Y.

NRA and Free target rifles and shooting—Roy F. Dunlap, 2319 Ft. Lowell Rd., Tucson, Arizona.

Sporting handguns and loading—Kent Bellah, Saint Jo, Texas.

American Single Shot Rifles—Rupert S. Hill, 325 James St., Elkhart, Indiana.

**Question:** When I was at Johnstown for the National Bench Rest Matches in September, I had an opportunity to thank you in person for the most excellent reply you furnished to an earlier question of mine about adjusting the trigger pull on the 722 Rem. The information was included in your column in PS in due course. I am sure many readers besides myself found it of great interest and help.

May I ask you another question now, and one which may provide useful material if you care to discuss it and have Phil show your answer in a future issue?

For my chuck shooting I carry in the car a heavy .22, a .22-250 and a 6 m/m. I use the 722 for the .22 for all possible shots. Under other conditions I fall back on the .22-250, using the 6 m/m only for shots when there is a lot of wind. All three are excellent perform-

ers. My present question relates to the .22-250.

I have a recorded total of 2117 full loads fired in this rifle and accuracy is still very good. I have been shooting it every season from 1954-59 (I shot it at Johnstown in a Varmint match—got a cheque too for 5th prize!) I use my own B&A bullets in Sierra jackets weighing 55 grains, 35 grains 4320 and Federal primers. I load to an overall length of 2.50" and for some time past I have found that my bullets as loaded do not touch the rifling; they certainly did when the rifle was new. The barrel is a Pfeiffer job which I got from C. C. Johnson at Springfield, Ohio in 1954, likely a chrome-moly steel. I expect that I have throat wear by now but as noted the accuracy continues to be exceptionally good. I notice that my trajectory has become appreciably less flat; primer heads indicate no signs of high pressure now, although formerly I had some slight cratering effect around the indent made by the firing pin. I do not have a chronograph and cannot check my velocity. I am thinking of increasing my load to 36 grains 4320 in the future.

In the April 1959 issue, page 16, you have some comment on velocity fall-off with the .220 Swift after the first 100 rounds, mentioning a loss of some 300 ft/sec. at 500 rounds. Apparently I am getting a similar condition with my .22-250. Would you care to comment on this? Is it normal and usual to increase the powder weight to recover velocity and flat trajectory in these circumstances? Many other shooters must run into the same situation. Any information you care to give me would very likely be welcomed in your fine column by them as well as myself. Stan. J. Weatherley, Toronto, Ont.

**Answer:** It is common practice for experienced handloaders to increase the load and to feed the bullets further out as the barrel throat wears. All rifles, or nearly all, give lower velocities when they are brand new. Generally the highest velocity is obtained after the rifle has been fired from 25 to 300 or 400 rounds, depending upon the caliber.

The highest velocity in a Swift is 25 to 75 rounds. It is quite likely that the .22-250 is in the same category. The velocity then starts to fall off if the same load is used and as you quoted many fall as much as 300 ft/sec at the end of 300 rounds in a .220 Swift. Cartidges with small case capacities and larger bores would of course have a more gradual rate of decline and it is quite likely that several thousand rounds would be required to produce comparable wear.

Cratering of the primer around the firing pin indent is not necessarily an indication of pressure although it sounds in your description as though you had higher pressures at the beginning than you are now getting. Since it is quite probable that accuracy is more important to you than highest velocity or lowest trajectory it is recommended that you use discretion in advancing your load. You may find the accuracy improved; if so, good. If the accuracy deteriorates just back off to the old load; no harm is done. M. H. Walker

**Question:** For the past four years I have been a subscriber to Precision Shooting. I enjoy the magazine very much and have found it to be very helpful in some of my shooting and handloading problems.

There is, however, one thing that puzzles me and I would like for you to



straighten it out. I have read, in various magazines and references, that the rimmed cartridges are best used in the single shot actions such as the Winchester Hi-Wall and are not recommended for bolt actions. In checking this year's report on the National Matches at Johnstown, N. Y. I find that 31% of the competitors shot the .219 Don. and there was not a single shot action listed. These cartridges were apparently shot in Mauser actions.

Since the Mauser action is designed for the rimless case, what alterations must be made to convert it to a rimmed case? In the rimless chamber the case head is out in the open for a considerable distance between the end of the chamber and the bolt face. What alterations are necessary to the bolt? Can the rimmed cases be fed from the magazine, as with the rimless case, or must it be used single shot? If it is used single shot how is the cartridge fed into the bolt face and then into the chamber? It seems that I have read, somewhere, that some bench rest shooters take the ejector from the side of their Mauser actions and after each shot they completely remove the bolt from the action, take the fired shell from the bolt, put the next load in the face of the bolt and then put the bolt back into the action. I realize that this isn't as complicated as it may sound. Bernard W. Baltz, 619 Lincoln St., McMechen, W. Va.

**Answer:** There are several methods of using rimmed cases such as the .219 Don. in a Mauser type action. The easiest of course is to turn the rims to about .468" diameter and head on the shoulder of the case rather than on the rim. This method is in use but I can not say how many shooters are using it. Most all .219 shooters who are using the M/722 Remington actions are using this method.

Another method which is very much like this one is to use the case as purchased and either turn or grind out the bolt face for the larger diameter of the rim.

The rimmed case is difficult to feed from a box magazine but it can be done by inserting filler pieces at front and rear which angles the top case forward over the next one lower. Some restriction is then required to prevent the round from being loaded in the opposite position. This is usually a mating filler piece on the front of the box which requires that the rounds fit very closely between it and the rear filler piece. It is a fair size job to develop such a box to work satisfactorily.

Several methods are used to get the rim beneath the extractor in a single shot rifle. One is to inlet a wood filler piece for the magazine opening in the bottom of the receiver which will extend up to the bolt proper. A recess is then inlet in the top which will allow the base of the case to drop low enough for the rim to pick up the extractor. Another method is to load the cartridge into the bolt face either by removing the bolt or by loading the round base face into the bolt face.

The other method of course is to head the cartridge on the rim in the usual manner and to recess the barrel breech for the extractor. My first .219 Don. on a Remington M/30 action was constructed in this manner.

Since the single shot actions are difficult to stock adequately for bench rest shooting these are not being recommended in recent years. M. H. Walker  
Question: My S & W .357 Magnum shoots fine with Remington ammo, but primers in Super-X loads flow in the

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firing pin hole, making the cylinder hard to turn. Heavy handloads with CCI primers are okay. Is the fault in the gun or ammo? H. Stogner, California

**Answer:** Some Super-X .357 ammo gives this trouble in Smith & Wesson revolvers, or other guns with the firing pin on the hammer. It is an understatement to say it is only irritating! Revolvers with a floating firing pin in the frame, such as Colt's, eliminate this problem. Current Remington loads have about the same ballistics as Super-X, and primers do not flow since they changed to the Small Rifle type some time ago. The change was good. Like you, I've had excellent results in every way with CCI primers.

I'm very fond of .357 revolvers, but from the various complaints on guns and loads, I believe they could have been more highly developed before being brought out. Many guns give the trouble you mention, and bore leading with factory ammo is common. Granted, the guns and ammo were born during the depression years when costs had to be kept to a minimum. I believe the guns would have been better with a floating firing pin, and the ammo better with a gas check or half-jacketed bullet.

Winchester's original loads were the hottest commercial revolver ammo ever made when they came out. Using the Large Pistol primer they were listed at 1,510 fs. Handloaders were warned they could not equal the ballistics safely, a false opinion expressed by several gun writers. For one reason or another Winchester discontinued the load, and sold a different one under the Western label, slightly reduced in power, and using Small Pistol primers.

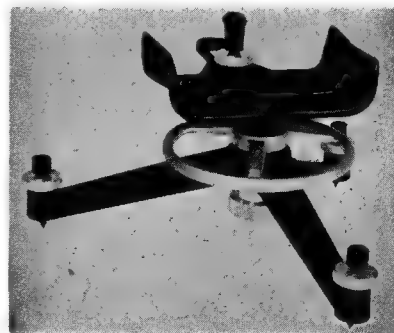
Western made a slight change or two, some good and some bad. They made a really wonderful load with hollow point bullets for a while, and I can't imagine why they dropped this most potent of all handgun loads. Anyway, Super-X remained tops in this caliber, with Remington fodder about like good hot 38/44 stuff for a long time, although both makes were listed at about the same 1,450 fs velocity. When Remington decided to bring their ammo up to par (or better) a while back, they did so without telling the good news to the shooting world. It packs a real decent charge of powder now.

I haven't had any complaints on  
(Continued on Page Fourteen)

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## The Information Bench

(Continued from Page Thirteen)

here leading with Remington stuff, although that doesn't mean it hasn't given some trouble. Some few guns seem to lead for no reason at all. Perhaps one in 100, or 1 in 1,000. Perhaps Remington underloaded ammo to eliminate this trouble in the past, although I'm not positive that Hi-V is the cause, or the only cause. I think some leading is in some individual guns rather than the ammo. I've fired and owned a great many .357 revolvers and leading has not been a big problem except with one gun. Jugular bullet loads have never given any trouble.

I'd like to see .357 factory ammo made with hollow point bullets. Varmint hunters and law enforcement officers would prefer it, even at a higher price. If necessary, they could discontinue the M. P. loads that are supposed to be made for car stopping. Lead bullets will stop cars with the new large glass area, and I do not think a .357 M. P. load is an ideal car stopper anyway. Too many police are packing them for service use, and they are inferior anti-personnel loads.

There is no reason why large ammo factories can not load Jugular type bullets for premium priced fodder that equal handloads. A non-reloader friend has been using a Colt Python .357 for several years, mostly for varmints. He got a Forster Precision Case Trimmer with their Hollow Point Accessory and hollow pointed factory fodder for a tremendous improvement. After trying some custom Jugular loads he went to them exclusively, and hollow points them himself. He doesn't shoot a great deal, but this is the only gun he owns. He is familiar with it, and with only one load, and he is a very efficient varmint hunter. Kent Bellah

## Hemsted Pistol Bullet Dies

(Continued from Page Nine)

hundred and fifty yards I could consistently hit a five quart oil can. Accuracy was so tight that I could call my shots. At one hundred yards from a wrist rest, I kept ten shots in the black on a twenty-five yard Standard American target. For those who don't know, that is proof of an extremely accurate load and an accurate load depends primarily on an accurate bullet.

The acid test, in my opinion, of a really fine, correctly designed bullet, is what it will do and how it will stand up in the caliber .44 Magnum. Again, using this fine Hemsted 232 grain bullet, I loaded WRA cases with #2 1/2 primers and 24.1 grains of #2400. I built up the powder charge from 23.4 grains. It might be wise at this point to say a few words about magnum and maximum loads. Barrel dimensions vary, even in the finest of firearms. The heavier the bullet, the longer the body bearing surface. The longer the body bearing surface, the higher the pressures. One method of reducing body bearing surfaces on heavy magnum bullets is to crimp the jacket, sometimes once, sometimes twice. This is an additional reason why I generally crimp all high velocity magnum bullets in both .357 and .429 calibers. It is fine to swage a heavy 250 grain caliber .44 bullet, but either the bearing surface must be reduced or the powder charge reduced. It is not enough to pull loading data out of a book.

Getting back to the use of this Hemsted 232 grain bullet in caliber .44 magnum using 24.1 grains of #2400. This

load gives a velocity of about 1535 fps. With the pure lead core and crimped jacket, this particular load is satisfactory for hunting anything up to and including deer and black bear, for this load will outshoot and outstop anything the caliber .30-30 will bring down. At fifty yards it is like shooting a rifle. At one hundred yards trajectories are still flat; hold on and that is where the bullet will strike. Out at two hundred odd yards from a prone position, the load in my 6 inch barrel Smith & Wesson would pick off five quart oil cans consistently. At unknown ranges from one hundred and fifty yards up to what I judge would be two hundred and fifty yards, on anything larger than a five quart can, I simply held right on and hit.

On expansion tests these bullets gave deep penetration, but most important of all, expansion was excellent. Jackets remained on the lead cores, slowing down and finally stopping expansion. This means that on tough, living tissue and bone, these bullets will deliver maximum shock and yet drive right on in without going to pieces. Accuracy from all these Hemsted caliber .44 bullets is tops. I do not know how it could be improved. Their design is excellent.

I could go on and simply say that the same applies to all the Hemsted caliber .357 bullets, dies and nose designs. But I would like to mention that out of all the hundreds of caliber .357 Hemsted bullets that I fired in handguns ranging from Colt Cobra 2" up through a Smith & Wesson caliber .357 with 8 1/2 inch barrel, these bullets proved themselves. They are accurate and each different bullet did what it was made to do.

My favorite caliber .357 bullet is the hollow point 146 grain bullet. Ahead of 18.5 grains of #2400 in my big 8 1/2 inch barrel Magnum, this bullet is like dynamite. As for accuracy, it is like shooting a rifle; a short carbine. I am looking forward to using this combination for woodchuck shooting. Using the sitting position and letting off the trigger with care, I was able to call shots at about three hundred yards. We were shooting at a five gallon paint bucket.

Shooters now have the bullets and powders with which to enjoy long range handgun shooting. Swaging these super-accurate bullets is no longer a chore when using the Hemsted dies. It is a lot of fun using a handgun for long range work and I particularly enjoy turning out the high velocity bullets so fast after so many years of fiddling with molten lead and grease and molds. Another factor that contributes so much to enjoying this long range high velocity shooting is the fact that there is no barrel scrubbing.

**HAS PROOF:** The Editor very recently spent a full day and long evening with Harvey Donaldson in his private gun shop in Fultonville, N. Y. and saw shooting and loading equipment and accessories dating from the 1880's or earlier right up to 1959. Readers may be assured that when Harvey Donaldson makes a firm statement in print that he has either documentary or product proof to support it.

**NOTHING NEW:** Theorizing or guessing about barrel vibration or "what-you-may-call-it" has been following similar lines for many, many years. Confirm this by reading the reprint of an article on this subject in the February issue which was printed 46 years ago.



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3. 300 Meter Aggregate score, Du Bois, Pa., 1957, Don Robbins.
4. First and Second places, 300 meters, Du Bois, Pa., 1957, Clair Taylor and Don Robbins.
5. National Match Course, Du Bois, Pa., 1957, 1st, 3rd, 6th, 7th places.
6. National Match 10-shot 100 yd. aggregate, Augusta, O. Al Creighton, .3105".
7. National Bench Rest Championship, Johnstown, New York, 1955, Sam Clark, Jr.
8. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1954, Sam Clark, Jr. Score, or Group, .5276"
9. 10 Shot 200 yard WORLD RECORD, Du Bois, Pa., 1956, H. L. Culver (Present record) Group size .4016"
10. 1000 Yard, Famous Wimbledon match, any sight, 1955, Camp Perry, O. Frank Conway.
11. 1000 Yard, Famous Wimbledon match, any sight, 1956, Camp Perry, O. Frank Conway.\*
12. Newest National Match Course winner, Wichita, Kans., Sept. 28, 1957, H. W. Barton, official new record, .3729" M. A. average.

\* First two-time winner in 57 years.

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All of the above barrels were barrels regularly used by the above shooters in setting these marks. They were not selected in advance by firing tests. All were regular PRODUCTION MADE BARRELS.

I submit the above as attesting to the fact that the ULTRARIFLED "button rifled" barrel is the finest PRODUCTION MADE barrel obtainable today, anywhere. Day after day, these barrels insure the attainment of finest accuracy for the customer, the least trouble, and the most profit for the dealer-gunsmith. In addition I feel that our trade policies, discounts, deliveries, prices, and our constant assurance of a high level of performance from all our barrels, large or small, provides an overall service not matched by any other Barrelnmaker in the land.

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## NEW SPEER RELOADING MANUALS

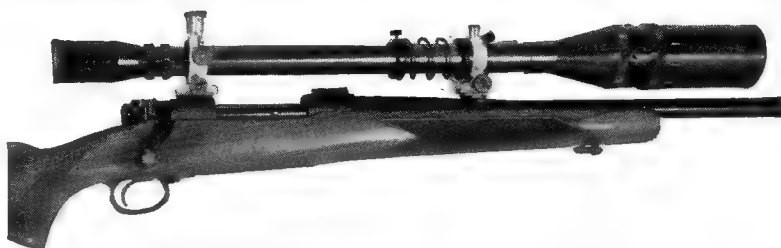
New and revised editions of the excellent SPEER RELOADING MANUALS were recently announced by Speer Products Company, Lewiston, Idaho bullet manufacturers. Manual #3 is packed with basic information on the art of hand-loading. There are separate sections on rifle and pistol reloading, complete with photographs of step by step procedures. Other sections deal with breech pressures and their detection, cartridge components and illustrations of all the latest hand-loading tools. The main feature, over half the manual, consists of the latest powder and velocity data developed by Speer in their own ballistics laboratory. As many as 24 different loads, utilizing DuPont, Hercules and Hodgdon powders are shown for each bullet weight in 42 rifle and 7 handgun cartridges.

Speer Reloading Manual #4 discusses wildcat cartridges, more on pressures, how to get the best accuracy from your rifle, and simplified exterior ballistics. Loading data covers 32 different wildcat cartridges.

SPEER RELOADING MANUALS are priced at \$2.75 each at dealers or from Speer Products Company, P. O. Box 244, Lewiston, Idaho.

(Editor's note: The foregoing is submitted by Ray Speer of Speer Products Company, who is a competitive shooter and experimenter as well as manufacturer and salesman. I haven't personally seen the new editions myself (small towns are often slow in getting new things) but others have advised that they are improved over the old editions, and Ernest Stuhlschuter gives them a good word in his letter this month.)

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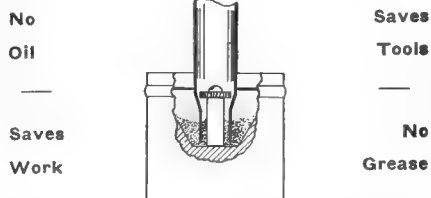


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## NEW ECHO MODEL C TOOL

By Kent Bellah

E. C. Herkner Co., P. O. Box 5007, Boise, Idaho, has a new ECHO Model C reloading tool with some excellent features. The \$22.50 price tag with one Shell Holder Head and one Primer Arm, less standard dies, is attractive. This is a strong "C" type press, similar to the old ECHO Models A or B, except it works on either the up or down stroke. Many handloaders prefer the down stroke, especially for heavy work.

This uses the same screw-on Shell Holder Heads as the old models. The ram is threaded so they screw on or off in a jiffy, without dis-assembling the tool, which is quite convenient. The small heads are easy to store and cost only \$3.25. Primer Arms are an improved Pacific type, at \$2.75. The coil return spring is a press fit in a hole in the arm, so it won't fall out or fly off. The Primer Arm shaft hole is permanently spring loaded so the shaft doesn't work out, and no key is needed. These are minor features, but good ones.

"C" presses are fast to operate, and the front being wide open as a boot jack provides ample finger room. A strong one, like the ECHO, has an insignificant amount of spring for routine loading operations. This, and other makes, will spring in heavy case forming or bullet sizing. A Wedge Block Tie Bar accessory is another ECHO exclusive, that allows the press to be used for heavy work without spring. This is a bar of  $\frac{1}{4} \times \frac{3}{8}$ " steel stock, attached with a pin in the primer arm slot, while a wedge holds it in the slot provided for an Automatic Primer Feed. The Tie Bar is attached or removed almost instantly. I can't detect any spring with it in place, even when heavy pressure is applied with an extension handle to swage big bullets with a hard alloy wire. (Hard alloys are not recommended for swaged bullets.)

The No. 1 Tie Bar fits this new Model C, or the old down-stroke Model B ECHO presses, or Pacific tools. A No. 2 is for the old up-stroke Model A ECHO, or C-H Standard presses. Price of either is \$4.75. They will not fit a Lyman Comet or Herters tool.

Shell Holder Heads in 26 numbers take practically all popular cartridges. They are accurately made to close dimensions; a change-over can be made in less than 10 seconds, and piddling with small parts is eliminated. Right handed operators can make the head turn slightly to the left for still more convenient feeding. Lightly file the head where it seats on the ram. Left handers can put a washer of thin shim stock on the ram. However, an open front press is easy to feed with the shell holder pointing to the front. ECHO could cut all heads a bit sloppy to take oversize hulls, but I prefer a precision fit, even if it requires buying an extra head in the same caliber.

An Automatic Primer Feed can be installed, if desired. I do not recommend them very highly on this type press. A friend has 23 holes in his ceiling, the result of a primer jam firing the entire tube. Fortunately, he wasn't injured, and such accidents are quite rare. But why take ANY chance? I've used these feeds to load many tens-of-thousands of rounds without trouble. As they are sold without any warning, you are safe if you take these tips. If a primer jams in the tube, never force the prime arm forward until the jam is cleared. After seating a primer, do not allow the arm to flop back under spring pressure; ease it back by hand.

The tiny amount of high explosive compound in primers is impact sensitive, and they should be handled with just reasonable care.

## IMPROVED ELECTRIC DRIPPER

By Kent Bellah

The \$6.50 Electric Dripper made by Shooters Accessory Supply, PO Box 205, North Bend, Oregon, is just too cheap and handy to do without. Ted Smith originally designed it to electrically "drip" powder in a scale pan to bring slight undercharges up to exact weight. It does this job with speed and accuracy, loading lab quality ammo on a production basis. In the October 1958 PRECISION SHOOTING I mentioned it was real handy to drip the entire charge for pistol and small rifle loads without a measure. Complete weighed charges can be dripped in 5 seconds or so, as fast as one can handle cases.

The gang of friends who spend some happy hours around my bench (may the Lord bless every one!) are fascinated by the gadget. Riflemen love it, and hand-gunners simply adore it. I've never seen a crank measure that would throw sticky pistol powders without goofing once in a while. (Yes, I know two makes will throw charges about as close as the average fellow weighs, on test runs of 100 charges. But the most careful operator will get some squib charges occasionally. These are not the fault of the measure or the operator, but are caused when the sticky powder doesn't fill the cavity. Then you get a 25% to 85% charge, which accounts for some unaccountables. And when you start dropping squibs they turn up frequently, making a perfectly lousy batch of ammo. Sometimes bullets stick in the bore, and have to be driven out.)

The Electric Dripper drips the entire charge where you can see it, and you can hold the weight to .1 grain if desired. It turns on and off instantly, and you don't fiddle with adjusting a measure for different loads. Accuracy fans and deluxe custom loaders will snatch at it like a refund on their income tax.

Ted read my comments on his clever Electric Dripper and promptly made the changes I thought were desirable. After I'd clobbered up some  $\frac{1}{2}$ " plastic side-boards to increase the capacity, out came his new model with a  $\frac{1}{2}$ " deeper hopper. It's also  $\frac{1}{2}$ " taller, so no wood or cast lead base is needed to reach the powder pan on most scales. Using the Webster Funnel Attachment on the excellent Webster RWC or RW-1 scales makes loading still faster and more convenient. It eliminated the need for a third hand, which would often get in the way, if you had one. If the unit "walks" a bit on a slick surface, use a small rubber mat for a base, or fold a sheet of sandpaper.

(Continued on Page Eighteen)

**BULLET JACKET "WRAP":** This Greenhorn Bullet Maker hasn't known what "wrap" in the nose section of hand swaged bullets was, so he asked Crawford Hollidge for information. Crawford sent sample bullets. This appears to be an actual rupture of the bullet jacket material which "wraps" over and presses into an adjacent area of the bullet nose section as the point is formed. The "greenhorn" keeps learning and, to date, has apparently been extremely lucky in his bullet making.



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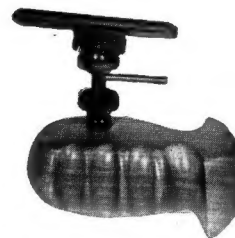
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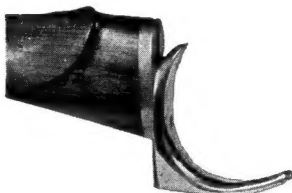
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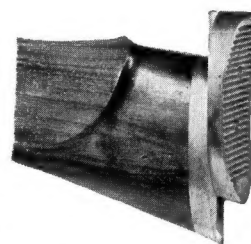
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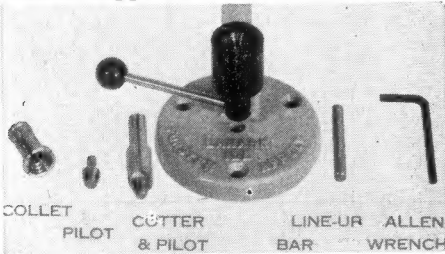
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## Still Quite A Ways To Go

(Continued from Page Two)

ed areas where formal competitive target shooting has the best chance to grow).

Second, an accelerated effort to provide better shooting ranges is needed. Too many rifle and pistol clubs are "getting along" with hand-out or makeshift ranges that are inadequate and quite unsatisfactory. That may be partly a hang-over of the idea that target shooting is a "poor man's sport." If there is any poor man's sport today, this writer is not aware of it (participator sport, that is).

Many clubs try to make out with unrealistically low membership dues, make-do as best they can with the use of National Guard gallery ranges when and if they can or will be made available, and with make-shift outdoor ranges, if any, and then wonder why they can't hold their membership, let alone increase it. The average person today has more time than ever before for recreation and hobby activities, and more money to spend on such activities. Rifle and pistol target shooting has to compete with many other recreation time activities, and it is not going to compete successfully with many of the shooting facilities (if they can be called that) provided by civilian rifle and pistol clubs. Covered firing lines for ranges for tournament shooting are presently almost an absolute necessity. No great amount more work or cost would be needed to make at least part of those firing lines suitable for firing the ISU courses. The so-called "safety ranges" are rapidly becoming, if not already, an absolute necessity in the more thickly populated areas, and only a little additional work and cost is necessary to adapt such ranges for the ISU courses.

This writer is not advocating that we junk all our old, familiar and liked courses of fire in favor of the ISU shooting program entirely. He does believe that adopting targets of or near ISU dimensions will make competitive target shooting more challenging and interesting, will tend to raise the general level of scoring ability, will make the transition to the ISU program easier and more desirable to more people, and thus provide a pool of shooters who can put the U. S. in the very top rank in world-wide target shooting competitions. Further, we believe that improved shooting facilities and shooting activity programs will attract more people to rifle and pistol target shooting for a recreation and hobby. More participants will make more competition, and more competition or more difficult targets will also aid in pushing up our general standard of rifle and pistol shooting excellence. For accomplishment, all the foregoing suggestions require leadership. We should rightly look to our national shooting organizations for that leadership, and the bigger the national organization the more rightly we should look to it to provide the initial leadership.

It is this writer's considered opinion that the officers and directors of our largest national shooting organization, our National Rifle Association, have been getting weak in that element of leadership toward progress in actual shooting. It is true that the NRA has provided leadership in the organization's branch activities, and the club and individual membership has supported the leaders and made many of those branch activities successful. But I do think that a great many of the rank and file shooting people do feel that they have been "let down" by lack of leadership in one of the fundamental purposes of the organiza-

tion; the shooting programs that will provide improved marksmanship.

It is this writer's further opinion that if the NRA leadership will courageously adopt or adapt rifle and pistol targets that are of or near ISU target dimensions, the major part of the rank and file target shooting members will support them, and that U. S. Target shooting will benefit as a result. Further leadership in an aggressive program for range improvement might then be hoped for. We hope that leadership will be forthcoming.

P. H. T.

## Improved Electric Dripper

(Continued from Page Sixteen)

Directions say it works on 2 to 8 volts from a dry cell, wet battery or doorbell transformer. Batteries have extremely long life, but I prefer a transformer tied into an extension cord, which allows the unit to be moved and plugged in any outlet. A doorbell type costs about \$1.79, and you'll probably find other uses for it. Or use wires from the transformer for your doorbell or chimes. Some chimes work on 18 volts. I've run thousands of charges from one of these, just to see if it would "take it," which it did. Volts have nothing to do with dripping speed, which is adjusted with a knob to your requirements.

There isn't anything Ted can do to improve this further, unless he installs a bottle opener or something. My original unit has saved many hours of time in accurately weighing thousands of charges, and is as good as ever. I wouldn't quit handloading if I had to do without one, but it would make it about as inconvenient as a new automobile without a self starter. The Electric Dripper is here to stay!

The same firm has improved their "Mity-Mite Pocket Loader" with a new design main body. The little outfit is complete, includes everything needed for loading, even an adjustable powder measure, the cavity being filled with a scoop, included. It will appeal to shooters who want a compact outfit at less than the price of a standard set of dies. Cases are neck sized only. Loading speed is faster than you might think, and the charges are almost as accurate as most people get with a crank measure. Nice for trips, or to fill a few hulls in spare time around the office or job, when ammo isn't needed in volume. I see no reason why the ammo would be inferior to any, when a scale is used.

Here's a tip on the \$11.95 Multi-Mezur that uses fixed charge slides, and charges 20 hulls with a single push-pull. If you order a slide for say 3 grains Bullseye, for example, it will throw 6.5 grains Unique when worked twice, or 15 grains 2400 if worked three times. These are all popular charges for 38-357 guns, and Multi-Mezur is as uniform in throwing pistol powders as any measure.

## INDIVIDUAL EXPERIMENTERS

frequently waste time because they do not know the results of similar experiments carried out earlier by other shooters. That is why it is very worthwhile for individuals to report the results of their experimenting, even though the experiments may be of minor nature, may be inconclusive, or even just plain "duds." We can all learn from our own or other's mistakes, if we know about them.



## BRITISH SMALL-BORE TARGET SHOOTING

### The National Small-Bore Rifle Association

Little publicized, but one of the biggest sports in the United Kingdom, is small-bore rifle and pistol shooting.

The National Meetings, for rifles with almost 1500 competitors at Bisley and 500 at the "Scottish Bisley" (at Stirling this year) and 200 firing with pistols at Bisley are but part of their enormous programme.

The National Small-Bore Rifle Association of Great Britain has concluded its most exhaustive and successful season of postal shooting competitions in its history of 58 years activity.

The programme, besides numerous small events for special sections of its membership such as the Army and other fighting Services, is concentrated on seven League competitions, one of which is for pistol shooting and another for standing and kneeling. The other five are for shooting in the prone position.

The main event is the National League in which 328 teams of five fired in 54 divisions and it was won for the ninth year in succession by the City of Birmingham who receive the title of the British Long Range Champions. The Birmingham team did, in fact, win four of the seven leagues. They did not enter the other three!

A very close second to Birmingham in the National League was the Lensbury and Britannic House Rifle Club, a team drawn from folk in the oil industry centered in London.

Birmingham also won the championship of the 50 yards Metric League, for which 242 teams entered and were divided into 40 divisions each of six teams, or thereabouts. In this competition the teams are of five and each man fires 20 shots at each match at 50 yards range, the targets being proportionate to those used in the Olympic Games of 1956. City of Birmingham were unbeaten in their eight matches but they tied two of them. In this event Lensbury and Britannic House were also second, that is in the first division, but their "B" team were champions in the fourth division. Winning teams throughout the forty divisions of the competition came from all parts of the United Kingdom and it is very pleasing to see how well the main prizes are distributed geographically.

The Standing and Kneeling League, which was entered by 99 teams divided into ten divisions, was a walk-away for Birmingham who won each of their nine matches. But in the second division their "B" team was placed fifth with the Atomic Research Station Club, A. W. R. Aldermaston, winning the title. It is interesting to note that the St. Nicholas Rifle Club of Chislehurst, shooting in those standing and kneeling positions for the first time, had unbeaten records with their team in both the ninth and tenth divisions. They had no records to offer for the purposes of divisional placings when the league was prepared and sportingly withdrew from any claim to the prizes. They would have won gilt medals in both divisions.

The Summer 'Any Sights' League is the smallest of the seven, attracting only eight teams, who fired in one division. The winners City of Birmingham were unbeaten, with Worplesdon (Surrey) second having lost only one match.

The Birmingham side do not shoot pistol, although several of their members shoot for neighbouring clubs which have

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pistol sections. The Pistol League was won by Ham and Petersham, one of the best known clubs in Great Britain whose ranges are near to Richmond in Surrey. Similarly several other Surrey teams were successful in the divisions made up from 166 teams of four who fire at 20 yards range.

There is also a Women's League fired at 25 yards range by teams of four, in which 44 teams entered and were divided into seven divisions. Champions of the first division were Wimbledon Park, a London area side which also won in 1957 and 1958. Vulcan Institute, whose women are drawn from a large aircraft factory in the Midlands, won the second division. Other divisional winners were Portsmouth North End; Blackpool, Allander (Dunbartonshire); Twickenham (Middlesex); and Mundesley (Norfolk).

The standard of shooting in the remaining of these seven leagues, the Scottish, fired at 50 and 100 yards ranges, is extremely high considering that weather in the North of Britain is less helpful to good shooting. The champions this year (1959) are Dundee and Strathmore, whose team contains husband and wife Mr. and Mrs. J. McKenzie and another lady, Mrs. Simpson.

#### Winter Season Programme

The Association is now preparing its Winter Season programme and the main event will be its National Short Range League, for which 884 teams have entered and will be divided into 80 divisions. In addition there will be leagues for industrial sides, universities, pistol shooters, juniors, public schools, sea cadets, air cadets and army cadets.

There will also be team champion-

ships for all comers graded in teams of four, six and eight, the most popular of which is that for teams of six sponsored by the "News of The World."

Among the supplementary competitions are individual championships for veterans, ladies, the four-countries comprising Great Britain, and the British Championship, all of which are sponsored by that same newspaper.

The most interesting of the new season's events is possibly the Colonial Match. Teams from every Colony and Protectorate in the British Commonwealth of Nations are invited to enter short range competition with rifles and pistols.

All of this organization work is operated by the National from its Headquarters at 113 Southwark Street, London, and literally tens of thousands of targets are prepared, distributed, shot, returned and scored and the results are issued from a continuous stream of paper which is produced on duplicating machines. The work of this Association is unique in the world and employs a permanent staff of some twenty persons whose interest is the promotion of small-bore shooting for all sections of the community.

(PS Editor's note: This British Association also publishes a quarterly magazine, "THE RIFLEMAN," which in addition to results of the shooting has many good articles and much interesting news about British small-bore rifle shooting. Further information about the magazine may be obtained by writing to the Association at its London address.)

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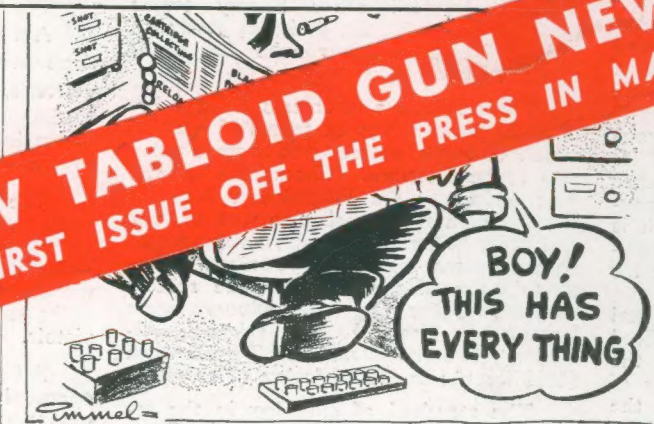
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